Electronics Letters

VOLUME 21, 1985

THE INSTITUTION OF ELECTRICAL ENGINEERS

Electronics Letters

THE INSTITUTION OF ELECTRICAL ENGINEERS

ELECTRONICS LETTERS (ISSN 0013-5194) is published fortnightly (biweekly) except for one issue in December (total of 25 issues), by the IEE, PO Box 8, Stevenage, Herts. SG1 1HQ, United Kingdom. 1985 annual subscription price £130·00, or overseas £183·00, including air speed delivery for US subscribers. Single copy £12·50. Available also in a concurrent microfiche edition at the same subscription rate as for the printed edition. The subscription for combined paper and microfiche is £175·00 (UK), overseas £246·00. Air mail service direct to subscribers an additional £41·00.

All subscriptions inquiries and orders should be sent to the Publication Sales Department, IEE, Station House, Nightingale Road, Hitchin, Herts. SG5 1SA, United Kingdom. Telephone Hitchin (0462) 53331, Telex 825962, Facsimile 0462 51922.

Contributions should be addressed to the Executive Editor, *Electronics Letters*, Publishing Department, Institution of Electrical Engineers, PO Box 8, Southgate House, Stevenage, Herts. SG1 1HQ, United Kingdom.
There is no page charge.

All other correspondence, including advertisements, should be sent to: IEE Publishing Department, PO Box 8, Southgate House, Stevenage, Herts. SG1 1HQ, United Kingdom. Telephone Stevenage (0438) 313311, Telex 825962, Facsimile 0438 313465. The telephone number of the London Office is 01 240 1871, Telex 261176, Facsimile 01 240 7735.

The advantages of rapid publication given by *Electronics Letters* are nullified if subscribers are subject to excessive delays in the receipt of the journal. The Executive Editor would be grateful to learn of any difficulties subscribers may experience.

This publication is copyright under the Berne Convention and the International Copyright Convention. All rights reserved. Apart from any copying under the UK Copyright Act 1956, part 1, section 7, whereby a single copy of an article may be supplied, under certain conditions, for the purposes of research or private study, by a library of a class prescribed by the UK Board of Trade Regulations (Statutory Instruments, 1957, no. 868), no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission of the copyright owners. Permission is, however, not required to copy abstracts of papers or articles on condition that a full reference to the source is shown.

Single copies may be made for the purpose of research or private study.

The IEE appreciates that, on certain occasions, it could be very useful for organisations to be able to make copies of articles and papers. An IEE licensing arrangement exists whereby organisations entering into an agreement are legally entitled to make up to twenty copies of an IEE paper or article. Full details may be obtained from the IEE Publishing Department at the above address.

Authorisation to photocopy items for internal or personal use, or for the internal or personal use of specific clients, is granted by the Institution of Electrical Engineers for libraries and other users registered with the Copyright Clearance Center Transactional Reporting Service, provided that the base fee of $2·00 per copy is paid directly to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA. 0013-5194/85 $2·00 + 0·00. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising of promotional purposes, for creating new collective works or for resale. Payment is also required for copying of articles published before 1978.

The IEE is not as a body responsible for the opinions expressed by individual authors.

The IEE is a member of the Association of Learned & Professional Society Publishers.

Publishing Department:
IEE
PO Box 8
Southgate House
Stevenage
Herts. SG1 1HQ
United Kingdom

Secretary of the IEE:
H. H. W. Losty

Managing Editor:
Bernard Dunkley

Executive Editor:
Kathy Westwood

Assistant Editor:
Steve Barrett

Graphics Manager:
Maurice Partridge

Marketing Manager:
Alan Baldwin

EDITORS
P. J. B. Clarricoats *(London)*
E. A. Ash *(London)*

Advertising Department:
IEE
PO Box 8
Southgate House
Stevenage
Herts. SG1 1HQ
United Kingdom

© 1985: The Institution of Electrical Engineers

The Institution of
Electrical Engineers
Savoy Place
London WC2R 0BL
United Kingdom

Typeset in England by
Santype International Ltd
Netherhampton Road
Salisbury
Wilts. SP2 8PS

Printed in England

Electronics Letters

INDEX VOLUME 21, 1985

Author index

A

Aas, J.A., and Lier, E. see Lier, E.
Abe, K., and Ernst, R. Static and dynamic fatigue tests of abraded optical fibre p926
Abe, T., Mitsunaga, Y., and Koga, H. Novel measurement method for axial residual stress in optical fibre p4
Abrahams, M.S., and Landsberg, P.T. see Landsberg, P.T.
Abramov, A.A., Borkina, G.Yu., Bubnov, M.M., Dianov, E.M., Guryanov, A.N., and Mjakov, V.N. Frost-resistant coated optical fibres p805
Abrokwah, J.K., Cirillo, N.C., Fraasch, A.M., and Vold, P.J. see Cirillo, N.C.
Abuelma'atti, M.T. Modelling DC characteristics of HEMTs p69
Adamovsky, G. All-fibre sensing loop using pulse-modulated light-emitting diode p922
Adams, L., Holmes-Siedle, A., Pauly, B., and Marsden, S. see Holmes-Siedle, A.
Adams, M.J., Westlake, H.J., and O'Mahony, M.J. see Westlake, H.J.
Adiga, B.S., and Mohan, S.B. see Mohan, S.B.
Adiga, B.S., and Shankar, P. Modified Lu–Lee cryptosystem p794
Agarwal, K.K., Thompson, W.J., and Asbeck, P.M. Phase-noise behaviour of frequency dividers implemented with GaAs heterojunction bipolar transistors p1005
Agrawal, G.P., and Shen, T.M. see Shen, T.M.
Ahmed, H., Evason, A.F., Cleaver, J.R.A., and Heard, P.J. see Evason, A.F.
Ainslie, B.J., Nelson, B.P., and Cooper, D.M. see Nelson, B.P.
Aitchison, C.S., and Camacho-Peñalosa, C. see Camacho-Peñalosa, C.
Aitchison, C.S., and Free, C.E. see Free, C.E.
Aitchison, C.S., and Law, C.L. see Law, C.L.
Aitchison, C.S., and Nazoa-Ruiz, N. see Nazoa-Ruiz, N.
Aitchison, C.S., and Paschalidou, V. see Paschalidou, V.
Aitchison, C.S., and Riris, A. see Riris, A.
Aitchison, C.S., and Tang, O.S.A. see Tang, O.S.A.
Akazawa, Y., Wakimoto, T., Kikuchi, H., Kawarada, K., Kato, N., and Ohwada, K. Gigahertz band GaAs monolithic limiting amplifier p790
Akiba, S., Noda, Y., Suzuki. M., and Kushiro, Y. see Noda, Y.
Akiba, S., Utaka, K., Sakai, K., and Matsushima, Y. see Utaka, K.
Akiyama, M., Kinoshita, H., Ishida, T., Inomata, H., Sano, Y., Nishi, S., and Kaminishi, K. see Kinoshita, H.
Al Khouri Ibrahim, S., Gómez Martín, R., Carrión Perez, M.C., and García Olmedo, B. see Gómez Martín, R.
Al-Salihi, F.A. Dynamic channel allocation schemes for cordless telephones p420
Alani, A., and de Cogan, D. see de Cogan, D.
Alard, F., Francois, P.L., Bayon, J.F., and Grot, D. see Francois, P.L.
Alard, F., Monerie, M., and Maze, G. see Monerie, M.
Alexander, S.B., and Welford, D. see Welford, D.
Alexander, S.B., and Welford, D. Equalisation of semiconductor diode laser frequency modulation with a passive network p361
Alexandre, F., and Lievin, J.L. see Lievin, J.L.
Alferness, R.C., and Veselka, J.J. Simultaneous modulation and wavelength multiplexing with a tunable Ti:$LiNbO_3$ directional coupler filter p466
Allnutt, J.E., and Rogers, D.V. see Rogers, D.V.
Allnutt, J.E., and Upton, S.A.J. Results of a 12 GHz radiometric experiment in Hong Kong p1217
Allott, D., and Clarke, R.J. Shape adaptive activity controlled multistage gain shape vector quantisation of images p393
Alphones, A. Fast method for calculating cutoff frequencies in single-mode fibres with arbitrary index profiles d966
Alping, A., Andersson, P., and Eng, S.T. Picosecond semiconductor laser radar with optical amplifier p126
Alping, A., Andrekson, P.A., and Andersson, P. see Andrekson, P.A.
Amemiya, M., Hayashi, Y., and Ito, T. Systematic jitter suppression by pattern inversion p709
Ananda Mohan, P.V. Computer-aided design of stray-insensitive second-order switched-capacitor filters p635
Ananda Mohan, P.V. Use of bilinear terminations for LDI-type SC ladder filters p588
Andersen, J.K., Lin, C., and Mengel, F. see Lin, C.
Andersson, P., Alping, A., and Eng, S.T. see Alping, A.
Andersson, P., Andrekson, P.A., and Alping, A. see Andrekson, P.A.
Andersson, P.-O., Persson, A., Thylén, L., and Edwall, G. Fibre optic interferometer using integrated optics p245
Andrasic, G., Hall, C.M., and James, J.R. see Hall, C.M.
Andrekson, P.A., Andersson, P., and Alping, A. Linewidth determination from electrical noise measurements on semiconductor lasers p1097
Andrew, R. Two new types of hazard in asynchronous circuits p1001
Ankiewicz, A., and Snyder, A.W. see Snyder, A.W.
Ankri, D., Dubon-Chevallier, C., Duchenois, A.M., and Bresse, J.F. see Dubon-Chevallier, C.
Antar, Y.M.M., and Hendry, A. Correlation measurements in precipitation at linear polarisation using dual-channel radar p1052
Anthony, P.J., Dutta, N.K., Wessel, T, Olsson, N.A., Logan, R.A., and Yen, R. see Dutta, N.K.
Anthony, P.J., Liou, K.-Y., Jhee, Y.K., Burrus, C.A., and Hall, K.L. see Liou, K.-Y.
Antov, B.Z., Asenov, A.M., Stefanov, E.N., and Vitanov, P.K. see Asenov, A.M.
Antreasyan, A., Chen, C.J., and Logan, R.A. Low-threshold InGaAsP buried-crescent stop-cleaved lasers for monolithic integration p404
Antreasyan, A., Chen, C.Y., and Garbinski, P.A. Dark noise of $Ga_{0.47}In_{0.53}As$ photoconductive detectors p1136
Aoki, Y., Kishida, S., Washio, K., and Minemura, K. Bit error rate evaluation of optical signals amplified via stimulated Raman process in an optical fibre p191
Aoyagi, T., Kaneno, N., Kadowaki, T., Ohsawa, J., Hinata, S., Ikeda, K., and Susaki, W. see Kaneno, N.
Aoyagi, T., Ohsawa, J., Hinata, S., Kadowaki, T., Kaneno, N., Ikeda, K., and Susaki, W. see Ohsawa, J.
Appelhans, G., Lackas, W., and Lampe, G. 678 Mbaud optical transmission experiment through 37 km of PCVD graded-index fibre p266
Arai, K., Hayashi, K., and Ida, Y. see Hayashi, K.
Arai, K., Ida, Y., Hayashi, K., Jinno, M., and Horii, T. see Ida, Y.
Arai, K., Mizutani, T., Oe, K., Fujita, S., and Yanagawa, F. see Mizutani, T.
Arai, M., Kasahara, J., and Watanabe, N. see Kasahara, J.
Arai, S., Tohmori, Y., Komori, K., and Suematsu, Y. see Tohmori, Y.
Araki, K., Ohira, T., Tanaka, T., and Kato, H. see Ohira, T.
Araki, K., Ueda, H., and Takahashi, M. Hankel transform domain analysis of complex resonant frequencies of double-tuned circular disc microstrip resonators/radiators p277
Araki, K., and Tanaka, T. 20 GHz band high-power onboard beam-switching circuit for multibeam satellite systems p474
Argoun, M.B. On common factors appearing in inversion of matrix transfer functions p910
Arnaud, J. Role of Petermann's *K*-factor in semiconductor laser oscillators p538
Arndt, F., Bornemann, J., Grauerholz, D., Fasold, D., and Schroeder, N. Waveguide *E*-plane integrated-circuit diplexer p615
Arndt, F., Bornemann, J., Piontek, C., and Schüler, H. Shunt-inductance-coupled waveguide filters with expanded second stopband p238
Arndt, F., Tucholke, W., and Wriedt, T. Design of a wideband compact square waveguide polariser p517
Arnold, G., Gottsmann, H., Krumpholz, O., Schlosser, E., and Schurr, E.-A. 1·3 μm edge-emitting diodes launching 250 μW into a single-mode fibre at 100 mA p993
Arnold, G., and Krumpholz, O. Optical transmission with single-mode fibres and edge-emitting diodes p390
Arrowsmith, R.P., Cristoloveanu, S., Pumfrey, J., Scheid, E., and Hemment, P.L.F. see Cristoloveanu, S.
Asada, M., Yamamoto, H., and Suematsu, Y. see Yamamoto, H.
Asahi, H., Kawamura, Y., Kohzen, A., and Wakita, K. see Kawamura, Y.
Asahi, H., Kawamura, Y., and Wakita, K. see Kawamura, Y.
Asahi, H., Wakita, K., Kawamura, Y., Yoshikuni, Y., and Uehara, S. see Wakita, K.
Asahi, H., Wakita, K., Kawamura, Y., and Yoshikuni, Y. see Wakita, K.
Asahi, H., Wakita, K., and Kawamura, Y. see Wakita, K.
Asakawa, K., Mannoh, M., Yuasa, T., Shinozaki, K., and Ishii, M. see Mannoh, M.
Asano, T., Kuriyama, Y., and Ishiwara, H. Fabrication of MOSFETs in Si/CaF_2/Si heteroepitaxial structures p386
Asbeck, P.M., Agarwal, K.K., and Thompson, W.J. see Agarwal, K.K.
Asbeck, P.M., Wang, K.C., Miller, D.L., and Eisen, F.H. see Wang, K.C.
Asenov, A.M., Stefanov, E.N., Antov, B.Z., and Vitanov, P.K. Numerical analysis of MOS transistor effective channel width p595
Ash, R.M., Sussmann, R.S., Moseley, A.J., and Goodfellow, R.C. see Sussmann, R.S.
Ashkenazy, J., Levine, E., and Treves, D. Radiometric measurement of antenna efficiency p111
Ashley, T., and Elliott, C.T. Nonequilibrium devices for infra-red detection p451
Austin, B.A. Ionospheric and geographical effects on the choice of tactical and point-to-point HF antenna systems p1107
Awaka, J., Fukuchi, H., and Oguchi, T. see Fukuchi, H.

B

Bødtker, E., Mark, J., and Tromborg, B. see Mark, J.
Bødtker, E., Mark, J., and Tromborg, B. see Mark, J.
Baba, T., Kokubun, Y., and Iga, K. see Kokubun, Y.
Bachus, E.-J., Böhnke, F., Braun, R.-P., Eutin, W., Foisel, H., Heimes, K., and Strebel, B. Two-channel heterodyne-type transmission experiment p35
Bachus, E.-J., Braun, R.-P., Eutin, W., Großmann, E., Foisel, H., Heimes, K., and Strebel, B. Coherent optical-fibre subscriber line p1203
Baden Fuller, A.J., and Parker, A.M. Equivalent circuit of microstrip spiral inductor circuit generation by computer p279
Bagheri, M., and Turchetti, C. Need for an explicit model describing MOS transistors in moderate inversion, The p873
Baglee, D.A., and Smayling, M.C. Leakage at low electric fields in thin oxides p224
Baher, H. Synthesis of highpass switched-capacitor LDI filters p79
Bailbe, J.P., Cazarre, A., Tasselli, J., Marty, A., and Rey, G. see Cazarre, A.
Baker, V., and Bricheno, T. see Bricheno, T.
Balk, P., Stoev, I., and Bauer, F. see Stoev, I.
Ballesteros, E., Perez, F., and Perez, J. see Perez, F.
Bandler, J.W., Daijavad, S., and Zhang, Q.J. Novel approach to multiplexer simulation and sensitivity analysis p408
Banjo, O.P., and Vilar, E. Binary error probabilities on earth-space links subject to scintillation fading p296
Banks, P.J., and Wilson, S.B. Economic comparison between TDM and SDM in small telephone systems p1177
Barbarossa, S., Capece, M., and Picardi, G. Complex autocorrelation estimators in radar signal processing p752
Barber, D.C., Conway, J., Hawley, M.S., Seagar, A.D., and Brown, B.H. see Conway, J.
Bardati, F., Mongiardo, M., and Solimini, D. Retrieval of hyperthermia-induced temperature distribution from noisy microwave radiometric data p800
Bardyszewski, W., and Yevick, D. Band-to-band Auger processes in 0·95 eV bandgap ($\lambda = 1{\cdot}3$ μm) $(Al_xGa_{1-x})_{0.48}In_{0.52}As$ lattice matched to InP p58
Barlow, K.J., Kiermasz, A., and Eccleston, W. Effect of crystal orientation on plasma-grown oxides of silicon 142
Barnes, C.E., and Choy, M.M. see Choy, M.M.
Barnes, S.R., Riley, S.P., and Wolfe, S.V. Hydrogen

evolution behaviour of silicone-coated optical fibres p712
Bashir, S.O., and McEwan, N.J. Crosspolarisation and gain reduction due to sand or dust on microwave reflector antennas p379
Bashir, S.O., and McEwan, N.J. Measurements of crosspolarisation and gain reduction due to dust on a microwave reflector antenna p1141
Battilana, J.A. Compact, cranked-dipole feed for efficient illumination of small *F/D* paraboloids p768
Baudet, P., and Venet, C. see Venet, C.
Baudrand, H., Taha, T.E., and Benslama, M. Determination of drift mobility and carrier concentration in semiconductors using surface acoustic wave amplifier structure p32
Bauer, F., Stoev, I., and Balk, P. see Stoev, I.
Bayon, J.F., Francois, P.L., Alard, F., and Grot, D. see Francois, P.L.
Bayoumi, M.A., Jullien, G.A., and Miller, W.C. Hybrid VLSI architecture of FIR filters using residue number systems p358
Bayraktaroglu, B., and Shih, H.D. High-efficiency monolithic GaAs impatt diodes p259
Bearman, M.Y., Wilbur-Ham, M.C., and Billington, J. Analysis of 'Open systems interconnection transport protocol standard' p659
Beaumont, A.R., Heatley, D.J.T., Lobbett, R.A., White, T.K., Farthing, A.J., Gilbert, K.I., and Stallard, W.A. see Heatley, D.J.T.
Beauséjour, A., Labrèche, A., Castonguay, M., and Cheeke, J.D.N. see Labrèche, A.
Bechtel, J.H., Salour, M.M., Schoner, G., and Kull, M. see Salour, M.M.
Beheim, G., and Fritsch, K. Remote displacement measurements using a laser diode p93
Belanger, M., Haruna, M., and Yip, G.L. see Haruna, M.
Belfort, A.J., and Cullen, A.L. see Cullen, A.L.
Beneking, H., Emeis, N., and Schumacher, H. see Emeis, N.
Beneking, H., and Emeis, N. see Emeis, N.
Beneking, H., and Narozny, P. see Narozny, P.
Bennett, J.C. Fast algorithm for calculation of radiation integral and its application to plane-polar near-field/far-field transformation p343
Bennett, J.C., and Swan, D.G. Microwave technique for reflector antenna profile measurement p560
Bennion, I., Goodwin, M.J., and Stewart, W.J. Experimental nonlinear optical waveguide device p41
Benslama, M., Baudrand, H., and Taha, T.E. see Baudrand, H.
Bentley, C.A., Birch, J.R., and Llewellyn, J.P. see Birch, J.R.
Beppu, T., Nitta, K., Komatsubara, T., Kinoshita, H., Iizuka, Y., and Nakamura, M. see Nitta, K.
Berenz, J., Nakano, K., Hsu, Ting-Ih, and Goel, J. HEMT 60 GHz amplifier p1028
Berenz, J., Nakano, K., Sato, T., and Fawcett, K. Modulation-doped FET DCML comparator p242
Bergmann, J.R., Brown, R.C., and Clarricoats, P.J.B. Dual reflector synthesis for specified aperture power and phase p820
Bernard, J.J., Chalot, S., Mouchart, J., Doll, A., Coeurjolly, C., and Leclerc, E. 110 km cost-effective transmission experiment at 140 Mbit/s using a 1·55 μm external-cavity BH laser p1222
Bernstein, M., DeFreez, R.K., Paoli, T.L., and Burnham, R.D. see DeFreez, R.K.
Berthold, J.E., Hayward, G.A., Gottlieb, A.M., and Boyer, D.G. see Hayward, G.A.
Bertholds, A., and Dändliker, R. Microprocessor-based phase determination for high-resolution optical sensors p65
Bethea, C.G., Levine, B.F., Cohen, L.G., Campbell, J.C., and Morris, G.D. see Levine, B.F.
Bethea, C.G., Levine, B.F., and Campbell, J.C. see Levine, B.F.
Betts, R.A., Hall, R.D., and Moss, J.P. see Hall, R.D.
Betts, R.A., and Pitt, C.W. Growth of thin-film lithium niobate by molecular beam epitaxy p960
Bhagavatula, V.A., and Larner, D.S. see Larner, D.S.
Bhat, B., and Mongia, R.K. see Mongia, R.K.
Bhattacharya, D. Characteristic impedance of coplanar waveguide p557 e824
Bhattacharyya, A.B., Visweswaran, G.S., and Jain, N.K. see Visweswaran, G.S.
Bhattacharyya, S., and Das, A.K. see Das, A.K.
Bialkowski, M.E., and Woods, G.S. Application of a six-port network to a near-field antenna measurement system p1066
Bibby, G.W., Dakin, J.P., Pratt, D.J., and Ross, J.N. see Dakin, J.P.
Bickers, L. Flexible regenerator for digital transmission systems p7
Bickers, L., Blank, L.C., and Walker, S.D. Long-span optical transmission experiment over 222·8 km of commercial monomode fibre at 140 Mbit/s and 1·525 μm p267
Bickers, L., and Westbrook, L.D. Reduction of laser chirp in 1·5 μm DFB lasers by modulation pulse shaping p103
Billingsley, J., and Billingsley, R.J. Software distribution via broadcast television signals p444
Billingsley, R.J., and Billingsley, J. see Billingsley, J.
Billington, J., Bearman, M.Y., and Wilbur-Ham, M.C. see Bearman, M.Y.
Bingkun, Zhou, Jianglin, Wang, and Hanyi, Zhang Improvement of side-mode suppression ratio of a single-mode SCC semiconductor laser p877
Birch, J.R., Bentley, C.A., and Llewellyn, J.P. Modulation of near-millimetre-wavelength radiation by magnetic fluids p313
Biswas, N.N. PLA folding algorithm from compatibility relations p984
Black, R.J., Veilleux, C., Bures, J., and Lapierre, J. Radially anisotropic lightguide mode selector p987
Black, W.C. Floating integrator technique for switched-capacitor circuits employing reset cycles p1126
Blakey, J.R., Cole, R.S., Sarma, A.D., and Silva Mello, L. Measurement of atmospheric millimetre-wave phase scintillations in an absorption region p486
Blakey, P.A., and Froelich, R.K. Fundamental high-frequency performance limit for impatt mode operation p28
Blank, L.C., Bickers, L., and Walker, S.D. see Bickers, L.
Blondeau, R., Poulain, P., Razeghi, M., Kazmierski, K., and Philippe, P. see Poulain, P.
Bloom, D.M., Weingarten, K.J., Rodwell, M.J.W., Heinrich, H.K., and Kolner, B.H. see Weingarten, K.J.
Böhnke, F., Bachus, E.-J., Braun, R.-P., Eutin, W., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.
Booth, R.C., Stallard, W.A., Hodgkinson, T.G., and Preston, K.R. see Stallard, W.A.
Borkina, G.Yu., Abramov, A.A., Bubnov, M.M., Dianov, E.M., Guryanov, A.N., and Mjakov, V.N. see Abramov, A.A.
Bornemann, J., Arndt, F., Grauerholz, D., Fasold, D., and Schroeder, N. see Arndt, F.
Bornemann, J., Arndt, F., Piontek, C., and Schüler, H. see Arndt, F.
Bornholdt, C., Krauser, J., and Nolting, H.-P. Novel simple method for determination of refractive index of optical monomode slab waveguides p706
Bottin, J., Easwarakhanthan, T., Bouhouch, L., and Nguyen, P.H. see Easwarakhanthan, T.
Bouadma, N., Riou, J., and Kampfer, A. Low threshold GaAs/GaAlAs BH lasers with ion-beam-etched mirrors p566
Boucouvalas, A.C., and Georgiou, G. Biconical taper coaxial coupler filter p1033
Boucouvalas, A.C., and Georgiou, G. Biconical taper coaxial optical fibre coupler p864
Boucouvalas, A.C., and Georgiou, G. Fibre-optic interferometric tunable switch using the thermo-optic effect p512
Bouhouch, L., Easwarakhanthan, T., Bottin, J., and Nguyen, P.H. see Easwarakhanthan, T.
Bourkoff, E., and Li, S.W. see Li, S.W.
Bowers, J.E. Millimetre-wave response of InGaAsP lasers p1195
Bowers, J.E., Boyd, G.D., Soccolich, C.E., Koch, T.L., Burrus, C.A., and Jopson, R.M. see Boyd, G.D.
Bowers, J.E., Burrus, C.A., and McCoy, R.J. InGaAs PIN photodetectors with modulation response to millimetre wavelengths p812
Bowers, J.E., Burrus, C.A., and Tucker, R.S. see Burrus, C.A.
Bowers, J.E., Hemenway, B.R., Bridges, T.J., Burkhardt, E.G., and Wilt, D.P. 26·5 GHz bandwidth InGaAsP lasers with tight optical confinement p1090
Bowers, J.E., Koch, T.L., Hemenway, B.R., Wilt, D.P., Bridges, T.J., and Burkhardt, E.G. High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers p297
Bowers, J.E., Koch, T.L., Hemenway, B.R., Wilt, D.P., Bridges, T.J., and Burkhardt, E.G. High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers p392
Bowers, J.E., Koren, U., Eisenstein, G., Gnauck, A.H., and Tien, P.K. see Koren, U.
Bowers, J.E., and Lin, C. see Lin, C.
Bower, J.E., and Lin, C. see Lin, C.
Bowley, D., White, I.H., Gallagher, D.F.G., and Osiński, M. see White, I.H.
Boyd, G.D., Coldren, L.A., and Burrus, C.A. see Coldren, L.A.
Boyd, G.D., Soccolich, C.E., Bowers, J.E., Koch, T.L., Burrus, C.A., and Jopson, R.M. Linewidth of 1·3 μm cleaved-coupled-cavity lasers p1129
Boyer, D.G., Hayward, G.A., Gottlieb, A.M., and Berthold, J.E. see Hayward, G.A.
Bradley, D.J., McInerney, J., and Reekie, L. see McInerney, J.
Bradshaw, E.S., Trew, R.J., and Hearn, C.P. see Trew, R.J.
Braun, R.-P., Bachus, E.-J., Böhnke, F., Eutin, W., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.
Braun, R.-P., Bachus, E.-J., Eutin, W., Großmann, E., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.
Braun, R.M., and Downing, B.J. Injection-lock bandwidth extension by control modulation and current 'hump' slope detection p564
Braun, R.P., and Waarts, R.G. see Waarts, R.G.
Bresse, J.F., Dubon-Chevallier, C., Duchenois, A.M., and Ankri, D. see Dubon-Chevallier, C.
Bricheno, T., and Baker, V. All-fibre polarisation splitter/combiner p251
Bridges, T.J., Bowers, J.E., Hemenway, B.R., Burkhardt, E.G., and Wilt, D.P. see Bowers, J.E.
Bridges, T.J., Bowers, J.E., Koch, T.L., Hemenway, B.R., Wilt, D.P., and Burkhardt, E.G. see Bowers, J.E.
Brine, A., and Farrell, P.G. Bandpass adder channel for multiuser (collaborative) coding schemes p1030
Brockherde, W., Lamkemeyer, M., Hosticka, B.J., and Richert, P. see Lamkemeyer, M.
Brockmann, W., Vogt, H., and Weiss, R. New logic array concept with high flexibility p891
Brown, B.H., Conway, J., Hawley, M.S., Seagar, A.D., and Barber, D.C. see Conway, J.
Brown, E.R. Ultra-low-noise, high-impedance preamp for cryogenic detectors p417
Brown, R.C., Bergmann, J.R., and Clarricoats, P.J.B. see Bergmann, J.R.
Brown, R.C., Clarricoats, P.J.B., and Zhou, H. Optimum shaping of reflector antennas for specified radiation patterns p1164
Bubnov, M.M., Abramov, A.A., Borkina, G.Yu., Dianov, E.M., Guryanov, A.N., and Mjakov, V.N. see Abramov, A.A.
Bucciarelli, T. CFAR problems in Weibull clutter p318
Bucciarelli, T., Fedele, G., and Forte, A. Detection of fixed targets embedded in log-normal clutter p1140
Buckland, E.L., and Nishimura, M. Measurement of wavelength variation of mode field radius using far-field pattern method p1149
Buhrer, C.F. Multiport optical fibre switch using a new hexagonal prism design p183
Buonomo, A., Di Bello, C., and Greco, O. General equation for quasisinusoidal oscillators p912
Burdge, G.L., Dimmick, T.E., and Ho, P.-T. see Dimmick, T.E.
Bures, J., Black, R.J., Veilleux, C., and Lapierre, J. see Black, R.J.
Burghard, A., Morrison, C.B., Zinkiewicz, L.M., and Figueroa, L. see Morrison, C.B.
Burkhardt, E.G., Bowers, J.E., Hemenway, B.R., Bridges, T.J., and Wilt, D.P. see Bowers, J.E.
Burkhardt, E.G., Bowers, J.E., Koch, T.L., Hemenway, B.R., Wilt, D.P., and Bridges, T.J. see Bowers, J.E.
Burnham, R.D., DeFreez, R.K., Paoli, T.L., and Bernstein, M. see DeFreez, R.K.
Burnham, R.D., Streifer, W., Hardy, A., Thornton, R.L., and Scifres, D.R. see Streifer, W.
Burnham, R.D., Streifer, W., Hardy, A., and Scifres, D.R. see Streifer, W.
Burnham, R.D., Welch, D.F., Scifres, D., Cross, P., Kung, H., Streifer, W., and Yaeli, J. see Welch, D.F.
Burrascano, P., Martinelli, G., and Orlandi, G. see Martinelli, G.
Burrows, D.F., Paraskeva, M., and Knight, W.L. see Paraskeva, M.
Burrus, C.A., Bowers, J.E., and McCoy, R.J. see Bowers, J.E.
Burrus, C.A., Bowers, J.E., and Tucker, R.S. Improved very-high-speed packaged InGaAs PIN punch-through photodiode p262
Burrus, C.A., Boyd, G.D., Soccolich, C.E., Bowers, J.E., Koch, T.L., and Jopson, R.M. see Boyd, G.D.
Burrus, C.A., Coldren, L.A., and Boyd, G.D. see Coldren, L.A.
Burrus, C.A., Eisenstein, G., Jopson, R.M., Linke, R.A., Koren, U., Whalen, M.S., and Hall, K.L. see Eisenstein, G.
Burrus, C.A., Jhee, Y.K., Liou, K.-Y., and Hall, K.L. see Jhee, Y.K.
Burrus, C.A., Lee, T.P., and Wilt, D.P. see Lee, T.P.
Burrus, C.A., Liou, K.-Y., Jhee, Y.K., Hall, K.L., and Anthony, P.J. see Liou, K.-Y.
Burrus, C.A., Wood, T.H., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Burrus, C.A., and Liou, K.-Y. see Liou, K.-Y.
Burt, M.G., and Taylor, R.I. Radiative efficiency in low-dimensional semiconductor structures p733
Butler, R.S. Frequency and polarisation scaling of microwave attenuation during rainfall p826
Buus, J. Dynamic line broadening of semiconductor lasers modulated at high frequencies p129
Buus, J. Linewidth enhancement, frequency modulation and instabilities of gain-guided semiconductor lasers p1115
Buus, J. Mode selectivity in DFB lasers with cleaved facets p179
Byron, K.C., and Pitt, G.D. Limits to power transmission in optical fibres p850 e1003

C

Cabon-Till, B., Ghibaudo, G., and Cristoloveanu, S. Influence of source-drain series resistance on MOSFET field-effect mobility p457
Cade, N.A., Girling, I.R., Kolinsky, P.V., and Montgomery, C.M. see Girling, I.R.
Calawa, A.R., Huang, J.C., Wicks, G.W., and Eastman, L.F. see Huang, J.C.
Camacho-Peñalosa, C., and Aitchison, C.S. Modelling frequency dependence of output impedance of a microwave MESFET at low frequencies

p528
Cameron, K.H., Matthews, M.R., Wyatt, R., and Devlin, W.J. see Matthews, M.R.
Camlibel, I., Saul, R.H., King, W.C., Olsson, N.A., Zipfel, C.L., Chin, B.H., Chin, A.K., and Minneci, G. see Saul, R.H.
Campbell, J.C., Dentai, A.G., Qua, G.J., Long, J., and Riggs, V.G. Planar InGaAs PIN photodiode with a semi-insulating InP cap layer p447
Campbell, J.C., Holden, W.S., Ferguson, J.F., Dentai, A.G., and Jhee, Y.K. see Holden, W.S.
Campbell, J.C., Kasper, B.L., Gnauck, A.H., Dentai, A.G., and Talman, J.R. see Kasper, B.L.
Campbell, J.C., Levine, B.F., Bethea, C.G., Cohen, L.G., and Morris, G.D. see Levine, B.F.
Campbell, J.C., Levine, B.F., and Bethea, C.G. see Levine, B.F.
Campbell, J.C., Olsson, N.A., Hegarty, J., Logan, R.A., Johnson, L.F., Walker, K.L., Cohen, L.G., and Kasper, B.L. see Olsson, N.A.
Campbell, J.C., Steel, J., and Davey, L. see Steel, J.
Canali, C., Fantini, F., Umena, L., and Zanoni, E. Degradation mechanisms induced by temperature in power MESFETs p600
Caneau, C., Srivastava, A.K., Dentai, A.G., Zyskind, J.L., and Pollack, M.A. Room-temperature GaInAsSb/AlGaAsSb DH injection lasers at 2·2 μm p815
Capece, M., Barbarossa, S., and Picardi, G. see Barbarossa, S.
Caponi, R., Coppa, G., Di Vita, P., and Rossi, U. Optical processing technique for spot-size measurements in single-mode fibres p56
Cappy, A., Versnaeyen, C., Vanoverschelde, A., Salmer, G., and Schortgen, M. see Versnaeyen, C.
Carlsen, W.J., Melman, P., and Foley, B. see Melman, P.
Carrión Perez, M.C., Gómez Martin, R., Al Khouri Ibrahim, S., and García Olmedo, B. see Gómez Martin, R.
Carroll, J.E., Maclean, D., White, I.H., and Plumb, R.G. see Maclean, D.
Carroll, J.E., and Travis, A.R.L. see Travis, A.R.L.
Carter, A.C., Monham, K.L., Plastow, R., and Goodfellow, R.C. see Monham, K.L.
Carter, A.C., Plastow, R., Monham, K.L., Ritter, J.E., Croft, T.D., and Gibson, M. see Plastow, R.
Carter, P.M., and Wilkins, B.R. Alpha-particle-induced failure modes in dynamic RAMs p38
Carter, S.F., France, P.W., Moore, M.W., and Williams, J.R. see France, P.W.
Casperson, L.W., Craig, R.R., Stafsudd, O.M., Yang, J.J.J., Evans, G.A., and Davidheiser, R.A. see Craig, R.R.
Castonguay, M., Labrèche, A., Beausèjour, A., and Cheeke, J.D.N. see Labrèche, A.
Catthoor, F., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Vandebroek, P., Slock, S., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.
Cazarre, A., Tasselli, J., Marty, A., Bailbe, J.P., and Rey, G. GaAlAs/GaAs heterojunction bipolar phototransistors grown by LPE with a current gain of 50 000 p1124
Cazin, J., Pearson, D.E., and Whybray, M. Progressive picture transmission using interleaved blocks p1181
Cella, T., Dutta, N.K., Napholtz, S.G., and Craft, D.C. see Dutta, N.K.
Chabran, C., Gallion, P., Nakajima, H., and Debarge, G. see Gallion, P.
Chailertvanitkul, A., Iga, K., and Moriki, K. GaInAsP/InP surface emitting laser (λ = 1·4 μm, 77 K) with heteromultilayer Bragg reflector p303
Chalot, S., Bernard, J.J., Mouchart, J., Doll, A., Coeurjolly, C., and Leclerc, E. see Bernard, J.J.
Chand, N., Houston, P.A., and Robson, P.N. Novel high-speed $In_{0.53}Ga_{0.47}As/InP$ lateral phototransistor p308
Chand, N., and Morkoç, H. Required grading length to eliminate the heterojunction spike in *npn* $In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As/InP$ bipolar transistors p841
Chang, C.Y., Wang, Y.H., Liu, W.C., and Liao, S.A. Temperature-dependent characteristics of MBE-grown GaAs p^+-v-p^+-v-n^+ regenerative switching device p24
Chang, G.K., Gimlett, J.L., Stern, M., Vodhanel, R.S., Cheung, N.K., Leblanc, H.P., Shumate, P.W., and Suzuki, A. see Gimlett, J.L.
Chang, K., Tahim, R.S., and Pham, T. see Tahim, R.S.
Chang, M.F., Ryan, F.J., Vahrenkamp, R.P., and Kirkpatrick, C.G. Self-aligned MESFETs by a dual-level double-lift-off substitutional gate (DDS) technique for high-speed low-power GaAs ICs p354
Cheah, J.Y.C., and Paoloni, F.J. Spatial resolution of coherent ALOHA collision sources p334
Cheeke, J.D.N., Labrèche, A., Beausèjour, A., and Castonguay, M. see Labrèche, A.
Chemla, D.S., Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Damen, T.C., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Chen, C.J., Antreasyan, A., and Logan, R.A. see Antreasyan, A.
Chen, C.Y., Antreasyan, A., and Garbinski, P.A. see Antreasyan, A.
Chen, C.Y., Garbinski, P.A., and Kasper, B.L. Bit rate dependence of receiver sensitivities in $Ga_{0.47}In_{0.53}As$ photoconductive detectors p273
Chen, K.-L., Twu, Y., Dienes, A., Wang, S., and Whinnery, J.R. see Twu, Y.
Chen, K.-L., and Wang, S. Etched-coupled-cavity InGaAsP/InP lasers p94
Chen, K.-L., and Wang, S. Single-lobe symmetric coupled laser arrays p347
Chen, P.Y.P. Fast method for calculating cutoff frequencies in single-mode fibres with arbitrary index profiles d966
Chen, Sin-Horng, Wang, Chin-Liang, and Wei, Che-Ho see Wang, Chin-Liang
Chen, Y.C., and Liu, J.M. see Liu, J.M.
Chen, Z.H., Yamanouchi, K., and Meguro, T. see Yamanouchi, K.
Cheng, T.C. 8 GHz, 10 W solid-state power amplifier for microwave digital radio p110
Cheng, W.H., Perillo, L., Forouhar, S., Kim, O.K., Jiang, C.L., and Sheem, S.K. 1·55 μm InGaAsP low-threshold buried-crescent injection laser p832
Cheng, Y.H., Okoshi, T., and Kikuchi, K. see Okoshi, T.
Cheung, N.K., Gimlett, J.L., Stern, M., Curtis, L., Young, W.C., and Shumate, P.W. see Gimlett, J.L.
Cheung, N.K., Gimlett, J.L., Stern, M., Vodhanel, R.S., Chang, G.K., Lebianc, H.P., Shumate, P.W., and Suzuki, A. see Gimlett, J.L.
Cheung, N.K., Shumate, P.W., Gimlett, J.L., Stern, M., and Romeiser, M.B. see Shumate, P.W.
Cheung, N.K., Stern, M., Gimlett, J.L., Curtis, L., Romeiser, M.B., Young, W.C., and Shumate, P.W. see Stern, M.
Cheung, N.K., Tomita, A., and Glodis, P.F. Observation of modal noise in single-mode-fibre transmission systems p5
Chiang, K.S. Conditions for obtaining zero polarisation mode dispersion in elliptical-core fibres p592
Chiang, K.S. Linearly birefringent fibres with zero polarisation-mode dispersion p916
Chin, A.K., Koszi, L.A., Segner, B.P., Shen, T.M., and Dutta, N.K. see Koszi, L.A.
Chin, A.K., Saul, R.H., King, W.C., Olsson, N.A., Zipfel, C.L., Chin, B.H., Camlibel, I., and Minneci, G. see Saul, R.H.
Chin, B.H., Saul, R.H., King, W.C., Olsson, N.A., Zipfel, C.L., Chin, A.K., Camlibel, I., and Minneci, G. see Saul, R.H.
Chive, M., Ledee, R., and Plancot, M. see Ledee, R.
Choi, S.S., and Chung, K.-B. see Chung, K.-B.
Choi, Y.M., and Tsang, K.F. Optimisation of dimensions of single V-groove guide p477 e1058
Choy, M.M., and Barnes, C.E. Effective screen for fast aging InGaAsP BH lasers using electrical derivatives p846
Chraplyvy, A.R., Stone, J., and Kasper, B.L. see Stone, J.
Chraplyvy, A.R., and Tkach, R.W. see Tkach, R.W.
Christou, A., Wilkins, B.R., and Tseng, W.F. Low-temperature epitaxial growth of GaAs on (100) silicon substrates p406
Christou, A., and Peckerar, M.C. Planar MOCVD GaAlAs/GaAs high-frequency mixer diodes p305
Chu, P.L., and Desem, C. Effect of third-order dispersion of optical fibre on soliton interaction p228
Chu, P.L., and Desem, C. Mutual interaction between solitons of unequal amplitudes in optical fibre p1133
Chu, T.-S., and Schecker, J.A. Extrapolation of point rain-rate distributions p754
Chu, T.S., and Itoh, T. Modified residue calculus technique for microstrip step discontinuities p257
Chubachi, N., Yamanaka, K., and Kushibiki, J. see Yamanaka, K.
Chung, K.-B., and Choi, S.S. Propagation characteristics of a triangular-index doubly clad monomode fibre p271
Chung, W.S., and Watanabe, K. 'Active-*RC*-circuit synthesis for the simulation of a grounded inductor' d15 d276
Cichocki, A., and Unbehauen, R. Novel switched-capacitor generalised integrator p158
Cinguino, P., Genova, F., Rigo, C., and Stano, A. Low dark current InGaAs PIN photodiodes grown by molecular beam epitaxy p139
Cirillo, N.C., Abrokwah, J.K., Fraasch, A.M., and Vold, P.J. Ultra-high-speed ring oscillators based on self-aligned-gate modulation-doped n^+-(Al, Ga)As/GaAs FETs p772
Claasen, T.A.C.M., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Catthoor, F., Vandebroek, P., Slock, S., and de Man, H. see van Ginderdeuren, J.
Clarke, A.P., and Marwood, W. see Marwood, W.
Clarke, R.J., and Allott, D. see Allott, D.
Clarricoats, P.J.B., Bergmann, J.R., and Brown, R.C. see Bergmann, J.R.
Clarricoats, P.J.B., Brown, R.C., and Zhou, H. see Brown, R.C.
Cleaver, J.R.A., Evason, A.F., Heard, P.J., and Ahmed, H. see Evason, A.F.
Cloude, S.R. Target decomposition theorems in radar scattering p22
Coeurjolly, C., Bernard, J.J., Chalot, S., Mouchart, J., Doll, A., and Leclerc, E. see Bernard, J.J.
Cohen, L.G., Levine, B.F., Bethea, C.G., Campbell, J.C., and Morris, G.D. see Levine, B.F.
Cohen, L.G., Olsson, N.A., Hegarty, J., Logan, R.A., Johnson, L.F., Walker, K.L., Kasper, B.L., and Campbell, J.C. see Olsson, N.A.
Coldren, L.A., Boyd, G.D., and Burrus, C.A. Dependence of chirping on cavity separation in two-section coupled-cavity lasers p527
Coldren, L.A., Wu, X.S., and Merz, J.L. see Wu, X.S.
Cole, R.S., Blakey, J.R., Sarma, A.D., and Silva Mello, L. see Blakey, J.R.
Coleman, J.J., Mawst, L.J., Costrini, G., Zmudzinski, C.A., Givens, M.E., and Emanuel, M.A. see Mawst, L.J.
Colinge, J.P., Hu, H.K., and Peng, S. Fabrication of thin silicon-on-insulator films using laser recrystallisation p1102
Collar, A.J., Renner, D., Greene, P.D., and Henshall, G.D. see Renner, D.
Constant, M., Verriele, H., Maricot, S., Ramdani, J., and Decoster, D. see Verriele, H.
Conway, J., Hawley, M.S., Seagar, A.D., Brown, B.H., and Barber, D.C. Applied potential tomography (APT) for noninvasive thermal imaging during hyperthermia treatment p836
Cooper, D.M., Nelson, B.P., and Ainslie, B.J. see Nelson, B.P.
Coppa, G., Caponi, R., Di Vita, P., and Rossi, U. see Caponi, R.
Corke, M., Jones, J.D.C., Kersey, A.D., and Jackson, D.A. Combined Michelson and polarimetric fibre-optic interferometric sensor p148
Cory, H., Parini, C.G., and Olver, A.D. Longitudinal coupling between elements in a disc-on-rod antenna array p112
Costrini, G., Mawst, L.J., Zmudzinski, C.A., Givens, M.E., Emanuel, M.A., and Coleman, J.J. see Mawst, L.J.
Cox, S.A. Clock sensitivity reduction in echo cancellers p585
Craft, D.C., Dutta, N.K., Cella, T., and Napholtz, S.G. see Dutta, N.K.
Craig, R.R., Casperson, L.W., Stafsudd, O.M., Yang, J.J.J., Evans, G.A., and Davidheiser, R.A. Etched-mirror unstable-resonator semiconductor lasers p62
Cristoloveanu, S., Cabon-Till, B., and Ghibaudo, G. see Cabon-Till, B.
Cristoloveanu, S., Pumfrey, J., Scheid, E., Hemment, P.L.F., and Arrowsmith, R.P. Thermal donor and new donor generation in SOI material formed by oxygen implantation p802
Croft, T.D., Plastow, R., Monham, K.L., Carter, A.C., Ritter, J.E., and Gibson, M. see Plastow, R.
Cross, P., Welch, D.F., Scifres, D., Kung, H., Streifer, W., Burnham, R.D., and Yaeli, J. see Welch, D.F.
Cullen, A.L., and Belfort, A.J. Seven-port millimetre-wave reflectometer p120
Culshaw, B., and Venkatesh, S. see Venkatesh, S.
Currie, B.W., Lewis, E.O., and Haykin, S. see Lewis, E.O.
Curtis, L., Gimlett, J.L., Stern, M., Young, W.C., Cheung, N.K., and Shumate, P.W. see Gimlett, J.L.
Curtis, L., Stern, M., Gimlett, J.L., Cheung, N.K., Romeiser, M.B., Young, W.C., and Shumate, P.W. see Stern, M.
Cuthbert, L.G., and Sharestani, E. see Sharestani, E.

D

da Rocha, V.C. Combinatorial codes p949
Da Silva, L.C., and Henriques, L.M.D. Analysis of scattering by cylindrical struts of arbitrary cross-section p42
Dändliker, R., and Bertholds, A. see Bertholds, A.
Dagakis, K., Mantakas, C., and Zacharopoulos, V. see Mantakas, C.
Daijavad, S., Bandler, J.W., and Zhang, Q.J. see Bandler, J.W.
Dakin, J.P., Pratt, D.J., Bibby, G.W., and Ross, J.N. Distributed optical fibre Raman temperature sensor using a semiconductor light source and detector p569
Dakin, J.P., and Pratt, D.J. Improved noninvasive 'fibredyne' highway based on polarimetric detection of strain in polarisation-maintaining fibres p1224
Damen, T.C., Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Danbury, R. Improved method of controlling stepping motor switching angle p432
Dandridge, A., Kersey, A.D., Tveten, A.B., and Giallorenzi, T.G. see Kersey, A.D.
Dandridge, A., and Kersey, A.D. see Kersey, A.D.
Daniel, J.P., Jeddari, L., Mahdjoubi, K., and Terret, C. see Jeddari, L.
Daniel, J.P., Roudot, B., Terret, C., Pribetich, P., and Kennis, P. see Roudot, B.
Darcie, T.E., Tucker, R.S., and Sullivan, G.J. Intermodulation and harmonic distortion in InGaAsP lasers p665
Das, A.K., and Bhattacharyya, S. Loss and mechanical strength of splices p81
Davarian, F., and Sumida, J. 2400 bit/s DMSK modem for mobile satellite service p965

Davey, L., Steel, J., and Campbell, J.C. see Steel, J.
Davidheiser, R.A., Craig, R.R., Casperson, L.W., Stafsudd, O.M., Yang, J.J.J., and Evans, G.A. see Craig, R.R.
Davidson, H.D., Maras, A.M., and Holt, A.G.J. see Maras, A.M.
Davidson, S.E., Long, S.A., and Richards, W.F. Dual-band microstrip antennas with monolithic reactive loading p936
Davies, D.E.N., and Kingsley, S.A. see Kingsley, S.A.
Davies, P.A., and Greenhalgh, P.A. see Greenhalgh, P.A.
Davis, L.E., and Sillars, D.B. see Sillars, D.B.
Davis, M.A., and Marrone, M.J. see Marrone, M.J.
de Albuquerque Araujo, A. Sum of absolute grey level differences: an edge-preserving smoothing approach p1219
de Cogan, D., and Alani, A. Double-resonance technique for C/V measurements of semiconductor devices p1153
de Man, H., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Catthoor, F., Vandebroek, P., Slock, S., and Claasen, T.A.C.M. see van Ginderdeuren, J.
De Meyer, K., Maes, W., and Dupas, L. see Maes, W.
DeFreez, R.K., Paoli, T.L., Bernstein, M., and Burnham, R.D. CW operation of a cleaved-coupled-cavity array of phase-locked GaAlAs lasers p241
Debarge, G., Gallion, P., Nakajima, H., and Chabran, C. see Gallion, P.
Debarge, G., and Gallion, P. see Gallion, P.
Decoster, D., Verriele, H., Maricot, S., Constant, M., and Ramdani, J. see Verriele, H.
Dekker, A.P. Resolution and sampling rate needed for quantisation of a narrowband signal in wideband noise p978
Del Re, E., and Fantacci, R. Digital communication receiver with integrated MAP synchronisation and ML demodulation p862
Dentai, A.G., Campbell, J.C., Qua, G.J., Long, J., and Riggs, V.G. see Campbell, J.C.
Dentai, A.G., Caneau, C., Srivastava, A.K., Zyskind, J.L., and Pollack, M.A. see Caneau, C.
Dentai, A.G., Holden, W.S., Campbell, J.C., Ferguson, J.F., and Jhee, Y.K. see Holden, W.S.
Dentai, A.G., Kasper, B.L., Campbell, J.C., Gnauck, A.H., and Talman, J.R. see Kasper, B.L.
Derksen, R.H., Rein, H.-M., and Wörner, K. Monolithic integration of a 5·3 GHz regenerative frequency divider using a standard bipolar technology p1037
Derry, P., Lindsey, C., and Yariv, A. see Lindsey, C.
Desem, C., and Chu, P.L. see Chu, P.L.
Deval, P., Robert, J., Temes, G.C., Krummenacher, F., and Valencic, V. see Robert, J.
Devlin, W.J., Matthews, M.R., Cameron, K.H., and Wyatt, R. see Matthews, M.R.
Devlin, W.J., Nelson, A.W., Hobbs, R.E., Lenton, C.G.D., and Wong, S. see Nelson, A.W.
Devlin, W.J., O'Mahony, M.J., Marshall, I.W., and Regnault, J.C. see O'Mahony, M.J.
Devoldere, P., Rose, B., Mircea, A., Robein, D., and Trotte, M. see Rose, B.
Di Bello, C., Buonomo, A., and Greco, O. see Buonomo, A.
Di Vita, P., Caponi, R., Coppa, G., and Rossi, U. see Caponi, R.
Dianov, E.M., Abramov, A.A., Borkina, G.Yu., Bubnov, M.M., Guryanov, A.N., and Mjakov, V.N. see Abramov, A.A.
Dienes, A., Twu, Y., Chen, K.-L., Wang, S., and Whinnery, J.R. see Twu, Y.
Diemmidi, T.E., Ho, P.-T., and Burdge, G.L. Coherent pulse generation by active modelocking of a GaAlAs laser in a Selfoc lens extended resonator el24
Dimopoulos, H.G. New switched-capacitor ladder filters p152
Dinger, R.J. Simulation study of reactively steered adaptive arrays p383
Dixon, M., and Kuo, C.-Y. see Kuo, C.-Y.
Djupsjöbacka, A. Novel type of broadband travelling-wave integrated-optic modulator p908
Djupsjöbacka, A., Thylén, L., Janson, M., and Döldissen, W. see Thylén, L.
Döldissen, W., Thylén, L., Djupsjöbacka, A., and Janson, M. see Thylén, L.
Doll, A., Bernard, J.J., Chalot, S., Mouchart, J., Coeurjolly, C., and Leclerc, E. see Bernard, J.J.
Dormido, S., Kahoraho, E., and Gutierrez, J.L. see Kahoraho, E.
Downing, B.J. Varactor diode for tuning high-power solid-state microwave oscillators p1152
Downing, B.J., and Braun, R.M. see Braun, R.M.
Downing, B.J., and Rachman, D.M. see Rachman, D.M.
Downs, D.A., and King, C.A. see King, C.A.
Drummond, T.J., and Zipperian, T.E. see Zipperian, T.E.
Du Plessis, M., and Rademeyer, P. Experimental verification of a VMOS UHF power transistor model and design p881
Dubon-Chevallier, C., Duchenois, A.M., Bresse, J.F., and Ankri, D. Reproducible low-resistivity AuMn ohmic contact for p-type GaAs p614
Dubost, G. Mutual impedance and coupling coefficient between two 'patches' expressed through analytical forms p1099
Dubost, G., and Rabbaa, A. Substrate influence on flat folded dipole bandwidth p426
Duchenois, A.M., Dubon-Chevallier, C., Bresse, J.F., and Ankri, D. see Dubon-Chevallier, C.
Dumas, J.M., Lecrosnier, D., Paugam, J., and Vuchener, C. Comparative reliability study of GaAs power MESFETs: mechanisms for surface-induced degradation and a reliable solution p115
Dupas, L., Maes, W., and De Meyer, K. see Maes, W.
Dupuis, R.D., Temkin, H., and Hopkins, L.C. InGaAsP/InP double heterostructure lasers grown by atmospheric-pressure MOCVD p60
Durteste, Y., Monerie, M., and Lamouler, P. Raman amplification in fluoride glass fibres p723
Dutta, N.K., Cella, T., Napholtz, S.G., and Craft, D.C. 1·3 μm InGaAsP index-guided multirib waveguide laser array p326
Dutta, N.K., Koszi, L.A., Chin, A.K., Segner, B.P., and Shen, T.M. see Koszi, L.A.
Dutta, N.K., Wessel, T, Olsson, N.A., Logan, R.A., Yen, R., and Anthony, P.J. Fabrication and performance characteristics of InGaAsP ridge-guide distributed-feedback multiquantum-well lasers p571

E

Earl, H.E., Jopson, R.M., Eisenstein, G., and Hall, K.L. see Jopson, R.M.
Eastman, L.F., Huang, J.C., Wicks, G.W., and Calawa, A.R. see Huang, J.C.
Eastman, L.F., Itoh, T., Griem, T., and Wicks, G.W. see Itoh, T.
Easwarakhanthan, T., Bouhouch, L., Bottin, J., and Nguyen, P.H. Semiempirical expressions for solar cell fill factors p529
Eccleston, W., Barlow, K.J., and Kiermasz, A. see Barlow, K.J.
Eda, N., Koentjoro, S., Furuya, K., and Suematsu, Y. see Koentjoro, S.
Edgcombe, C.J., and Stenton, J.A.C. Operation of gyrotron oscillator with beam current unrestricted by cathode temperature p349
Edwall, G., Andersson, P.-O., Persson, A., and Thylén, L. see Andersson, P.-O.
Edwards, W.D. GaAs FET as a light transducer p399
Efstathiou, C., and Halatsis, C. Efficient modular design of m-out-of-$2m$ TSC checkers, for $m = 2^k - 1$, $K > 2$ p1083
Ege, T., and McAndrew, P. Analysis of stepped septum polarisers p1166
Eichen, E., Melman, P., and Nelson, W.H. Intrinsic lineshape and FM response of modulated semiconductor lasers p849
Eisen, F.H., Wang, K.C., Asbeck, P.M., and Miller, D.L. see Wang, K.C.
Eisenstein, G., Jopson, R.M., Earl, H.E., and Hall, K.L. see Jopson, R.M.
Eisenstein, G., Jopson, R.M., Hall, K.L., and Simpson, J.R. see Jopson, R.M.
Eisenstein, G., Jopson, R.M., Linke, R.A., Burrus, C.A., Koren, U., Whalen, M.S., and Hall, K.L. Gain measurements of InGaAsP 1·5 μm optical amplifiers p1076
Eisenstein, G., Koren, U., Bowers, J.E., Gnauck, A.H., and Tien, P.K. see Koren, U.
Eisenstein, G., Korotky, S.K., Stulz, L.W., Veselka, J.J., Jopson, R.M., and Hall, K.L. Antireflection coatings on lithium niobate waveguide devices using electron beam evaporated yttrium oxide p363
Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Stulz, L.W., and Veselka, J.J. see Tucker, R.S.
Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Veselka, J.J., Stulz, L.W., Jopson, R.M., and Hall, K.L. Active mode-locking of an InGaAsP 1·55 μm laser in a fibre resonator with an integrated single-mode-fibre output port p173
Ekanayake, N. Unresolved carrier phase ambiguity and trellis decoding of CPFSK signals p1165
El Fatatry, A. $1 \times n$ optical fibre switch p618
El Kadiri, M., Seguinot, C., Kennis, P., Pribetich, P., and Villotte, J.P. see Seguinot, C.
El-Badawy, Z.I., Tredgold, R.H., and Winter, C.S. see Tredgold, R.H.
El-Ghazaly, S., and Hoefer, W.J.R. Effect of number of spectral terms on convergence of spectral-domain calculations of E-plane structures p677
Elliott, C.T., and Ashley, T. see Ashley, T.
Elliott, S.J., and Nelson, P.A. Algorithm for multichannel LMS adaptive filtering p979
Emanuel, M.A., Mawst, L.J., Costrini, G., Zmudzinski, C.A., Givens, M.E., and Coleman, J.J. see Mawst, L.J.
Emeis, N., Schumacher, H., and Beneking, H. High-speed GaInAs Schottky photodetector p180
Emeis, N., and Beneking, H. Fabrication of widegap-emitter Schottky-collector transistor using GaInAs/InP p85
Emerson, D.J., and Scott, R.P. see Scott, R.P.
Emura, K., Shikada, M., Yamazaki, S., Komatsu, K., Mito, I., and Minemura, K. Optical DPSK heterodyne detection experiments using DBR laser diodes with external optical feedback p1121
Emura, K., Yamazaki, S., Shikada, M., Yamaguchi, M., and Mito, I. see Yamazaki, S.
Endo, T., Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hayashi, Y., Hashizume, N., Kato, M., and Inage, H. see Matsumoto, K.
Eng, S.T., Alping, A., and Andersson, P. see Alping, A.
Enomoto, Y., Ohishi, Y., Takahashi, S., and Murakami, T. 600 MHz optical signal transmission at the 3 μm band using a fluoride optical fibre and a superconducting detector p219
Eriksson, S. First-order SC filter section with interpolating output p221
Eriksson, S. Offset-compensated bilinear SC filter of leapfrog type using a two-phase clock p1043
Eriksson, S. SC filter circuit with decimation of sampling frequency p484
Ernst, R., and Abe, K. see Abe, K.
Eutin, W., Bachus, E.-J., Böhnke, F., Braun, R.-P., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.
Eutin, W., Bachus, E.-J., Braun, R.-P., Großmann, E., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.
Evans, D.H. High-efficiency Ka- and Ku-band MESFET oscillators p254
Evans, G.A., Craig, R.R., Casperson, L.W., Stafsudd, O.M., Yang, J.J.J., and Davidheiser, R.A. see Craig, R.R.
Evason, A.F., Cleaver, J.R.A., Heard, P.J., and Ahmed, H. Registration mark detection for scanning ion beam lithography p629
Evers, G. Mode transition matrices for fibre-optic connectors p401
Ezekiel, S., and Jain, S.K. see Jain, S.K.

F

Fabre, A., and Rochegude, P. Allpass filters using a current-controlled current source p1205
Fairhurst, M.C., and Mattoso Maia, M. Configuration selection for two-layer memory network pattern classifiers p963
Faltin, L. Propagation characteristics of broadside-coupled shielded image lines p763
Fantacci, R., and Del Re, E. see Del Re, E.
Fantini, F., Canali, C., Umena, L., and Zanoni, E. see Canali, C.
Farrell, P.G., and Brine, A. see Brine, A.
Farthing, A.J., Heatley, D.J.T., Lobbett, R.A., White, T.K., Gilbert, K.I., Stallard, W.A., and Beaumont, A.R. see Heatley, D.J.T.
Fasold, D., Arndt, F., Bornemann, J., Grauerholz, D., and Schroeder, N. see Arndt, F.
Favennec, P.N., L'Haridon, H., Salvi, M., and Razeghi, M. see L'Haridon, H.
Favre, F., and Le Guen, D. FM noise and linewidth reduction in semiconductor laser weakly coupled to a single-mode fibre resonator p467
Fawcett, K., Berenz, J., Nakano, K., and Sato, T. see Berenz, J.
Fedele, G., Bucciarelli, T., and Forte, A. see Bucciarelli, T.
Fedele, G., Orsini, M., and Strappaveccia, S. Monopulse angular accuracy for fluctuating targets p229
Feng, Y.-K. New $n(E)$ relationship for GaAs p453 e824
Ferguson, A.I. Single-frequency operation of an optically pumped monolithic Nd:YAG laser at 1·3 μm p853
Ferguson, J.F., Holden, W.S., Campbell, J.C., Dentai, A.G., and Jhee, Y.K. see Holden, W.S.
Fermann, M.E., Poole, S.B., and Payne, D.N. see Poole, S.B.
Fernandez, A., and Valenzuela, A. General solution for single-layer electromagnetic-wave absorber p20
Figueroa, L., Morrison, C., Zinkiewicz, Z., and Niesen, J. Novel mechanism for fabrication of high-power superluminescent light-emitting diodes (SLDs) p1106
Figueroa, L., Morrison, C.B., Zinkiewicz, L.M., and Burghard, A. see Morrison, C.B.
Figueroa, L., Morrison, C.B., Zinkiewicz, L.M., and Niesen, J. see Morrison, C.B.
Figueroa, L., Yang, J.J., Hong, C.S., and Niesen, J. see Yang, J.J.
Filanovsky, I.M., and Fortier, G.J. Fast amplitude control in twin-T bridge RC oscillators p791
Fionda, E., Merlo, U., and Marchetti, P.G. see Merlo, U.
Fischer, A., Schubert, E.F., and Ploog, K. see Schubert, E.F.
Foisel, H., Bachus, E.-J., Böhnke, F., Braun, R.-P., Eutin, W., Heimes, K., and Strebel, B. see Bachus, E.-J.
Foisel, H., Bachus, E.-J., Braun, R.-P., Eutin, W., Großmann, E., Heimes, K., and Strebel, B. see Bachus, E.-J.
Foley, B., Melman, P., and Carlsen, W.J. see Melman, P.
Fong, K.S., Pues, H.F., and Withers, M.J. Wideband multilayer coaxial-fed microstrip antenna element p497
Forouhar, S., Cheng, W.H., Perillo, L., Kim, O.K., Jiang, C.L., and Sheem, S.K. see Cheng, W.H.
Forte, A., Bucciarelli, T., and Fedele, G. see Bucciarelli, T.

Fortier, G.J., and Filanovsky, I.M. see Filanovsky, I.M.

Fotopoulos, S. Economical design of SC coupled-biquad filters p472

Fourikis, N. Novel method for instantaneous determination of frequency of transmitters over wide bandwidths p879

Fox, J.D., Khuri-Yakub, B.T., and Kino, G.S. Acoustic resonator transducer for operation in air p694

Fox, N.I., Nourshargh, N., Starr, E.M., and Jones, S.G. see Nourshargh, N.

Fraasch, A.M., Cirillo, N.C., Abrokwah, J.K., and Vold, P.J. see Cirillo, N.C.

France, P.W., Carter, S.F., Moore, M.W., and Williams, J.R. Reduction of absorption losses in ZrF_4-based IR fibres p602

Francois, P.L., Bayon, J.F., Alard, F., and Grot, D. Characterisation procedure of fibre packagings relative to microbends p471

Free, C.E., and Aitchison, C.S. Single PIN diode X-band phase shifter p128

Freyer, J., and Pierzina, R. see Pierzina, R.

Fritsch, K., and Beheim, G. see Beheim, G.

Froelich, R.K., and Blakey, P.A. see Blakey, P.A.

Fuhr, P.L. Wavelength fluctuations in pulsed variable spacing phase-locked laser diode arrays p697

Fujii, H., Suemune, U., and Yamanishi, M. Analysis of transverse modes of phased-locked multistripe lasers p713

Fujii, T., Nobuhara, H., and Wada, O. see Nobuhara, H.

Fujii, T., Wada, O., Sanada, T., and Kuno, M. see Wada, O.

Fujii, Y., and Minowa, J. see Minowa, J.

Fujisawa, K., Yamaguchi, A., and Kita, S. see Yamaguchi, A.

Fujise, M., Mochizuki, K., Suzuki, H., Watanabe, M., Koishi, M., and Tsuchiya, T. see Mochizuki, K.

Fujise, M., and Ichikawa, M. Linewidth measurements of a 1·5 μm range DFB laser p231

Fujita, O., Nakano, Y., and Iwane, G. Screening by aging test for highly reliable laser diodes p1172

Fujita, S., Mizutani, T., Arai, K., Oe, K., and Yanagawa, F. see Mizutani, T.

Fujita, S., Mizutani, T., and Yanagawa, F. see Mizutani, T.

Fujita, T., Ohya, J., Matsuda, K., Ishino, M., Sato, H., and Serizawa, H. Narrow spectral linewidth characteristics of monolithic integrated-passive-cavity InGaAsP/InP semiconductor lasers p374

Fukaya, N., Okoshi, T., and Kikuchi, K. see Okoshi, T.

Fukuchi, H. Two-dimensional probability distribution of attenuation and depolarisation on earth-space path p445

Fukuchi, H., Awaka, J., and Oguchi, T. Frequency scaling of depolarisation at centimetre and millimetre waves p10

Fukuda, T., Hirose, Y., and Ona, A. see Hirose, Y.

Fukushima, T., Kikuchi, K., and Okoshi, T. see Kikuchi, K.

Fulop, W., and Ginige, R. Dielectric switching with memory in thin films of stearic acid p439

Furuya, K. Dependence of linewidth enhancement factor α on waveguide structure in semiconductor lasers p200

Furuya, K., Koentjoro, S., Eda, N., and Suematsu, Y. see Koentjoro, S.

Fye, D., Olshansky, R., Manning, J., Stern, M., Meland, E., Powazinik, W., Ulbricht, L., and Lauer, R. see Olshansky, R.

Fye, D.M., Manning, J., Olshansky, R., and Powazinik, W. see Manning, J.

Fye, D.M., Olshansky, R., Manning, J., and Su, C.B. see Olshansky, R.

G

Gagnepain, J.J., Vaterkowski, J.L., and Roques-Carmes, C. see Vaterkowski, J.L.

Gallagher, D.F.G., Osiński, M., and White, I.H. see Osiński, M.

Gallagher, D.F.G., White, I.H., Osiński, M., and Bowley, D. see White, I.H.

Gallion, P., Nakajima, H., Debarge, G., and Chabran, C. Contribution of spontaneous emission to the linewidth of an injection-locked semiconductor laser p626

Gallion, P., and Debarge, G. Influence of amplitude-phase coupling on the injection locking bandwidth of a semiconductor laser p264

Ganguly, U.S. Extended-range parallel-path *RC* oscillator synthesis: a state-variable approach p1048

Garbinski, P.A., Antreasyan, A., and Chen, C.Y. see Antreasyan, A.

Garbinski, P.A., Chen, C.Y., and Kasper, B.L. see Chen, C.Y.

García Olmedo, B., Gómez Martín, R., Carrión Perez, M.C., and Al Khouri Ibrahim, S. see Gómez Martín, R.

Garg, R., and Palanisamy, V. see Palanisamy, V.

Garrett, I., and Jacobsen, G. see Jacobsen, G.

Garrett, I., and Jacobsen, G. Influence of (semiconductor) laser linewidth on the error-rate floor in dual-filter optical FSK receivers p280

Garrigues, M., and Pavlin, A. New technique for measuring small MOS gate currents p16

Geittner, P., Hagemann, H.J., Warnier, J., Weling, F., and Wilson, H. Reduction of geometric taper losses in the PCVD process p870

Genova, F., Cinguino, P., Rigo, C., and Stano, A. see Cinguino, P.

Georgiou, G., and Boucouvalas, A.C. see Boucouvalas, A.C.

Gharavi, H., and Steele, R. Conditional entropy encoding of log-PCM speech p475

Ghibaudo, G., Cabon-Till, B., and Cristoloveanu, S. see Cabon-Till, B.

Ghosh, G., Kachi, S., Sasaki, Y., and Kimura, M. New method to measure scattering and total losses of optical fibres p670

Giallorenzi, T.G., Kersey, A.D., Dandridge, A., and Tveten, A.B. see Kersey, A.D.

Gibson, M., Plastow, R., Monham, K.L., Carter, A.C., Ritter, J.E., and Croft, T.D. see Plastow, R.

Gilbert, K.I., Heatley, D.J.T., Lobbett, R.A., White, T.K., Farthing, A.J., Stallard, W.A., and Beaumont, A.R. see Heatley, D.J.T.

Gilmore, R. Octave bandwidth microwave FET doubler p532

Gimlett, J.L., Shumate, P.W., Stern, M., Romeiser, M.B., and Cheung, N.K. see Shumate, P.W.

Gimlett, J.L., Stern, M., Curtis, L., Cheung, N.K., Romeiser, M.B., Young, W.C., and Shumate, P.W. see Stern, M.

Gimlett, J.L., Stern, M., Curtis, L., Young, W.C., Cheung, N.K., and Shumate, P.W. Dispersion penalties for single-mode-fibre transmission using 1·3 and 1·5 μm LEDs p668

Gimlett, J.L., Stern, M., Vodhanel, R.S., Cheung, N.K., Chang, G.K., Leblanc, H.P., Shumate, P.W., and Suzuki, A. Transmission experiments at 560 Mbit/s and 140 Mbit/s using single-mode fibre and 1300 nm LEDs p1198

Ginige, R., and Fulop, W. see Fulop, W.

Girling, I.R., Cade, N.A., Kolinsky, P.V., and Montgomery, C.M. Observation of second-harmonic generation from a Langmuir–Blodgett monolayer of a merocyanine dye p169 e359

Givens, M.E., Mawst, L.J., Costrini, G., Zmudzinski, C.A., Emanuel, M.A., and Coleman, J.J. see Mawst, L.J.

Glance, B. Performance of AFC for phase noise reduction of optical sources p994

Glass, A.M., Klein, M.B., and Valley, G.C. Photorefractive determination of the sign of photocarriers in InP and GaAs p220

Glöckler, R. Millimetre-wave dielectric waveguide ferrite phase shifter with longitudinal magnetisation p827

Glodis, P.F., Cheung, N.K., and Tomita, A. see Cheung, N.K.

Glodis, P.F., Shang, H.-T., Lenahan, T.A., and Kalish, D. see Shang, H.-T.

Gnauck, A.H., Kasper, B.L., Campbell, J.C., Dentai, A.G., and Talman, J.R. see Kasper, B.L.

Gnauck, A.H., Koren, U., Eisenstein, G., Bowers, J.E., and Tien, P.K. see Koren, U.

Gómez Martín, R., Carrión Perez, M.C., Al Khouri Ibrahim, S., and García Olmedo, B. Application of maximum entropy spectral analysis to estimation of parameters of ARMA models by the ITIF method p611

Goel, J., Berenz, J., Nakano, K., and Hsu, Ting-Ih see Berenz, J.

Gold, M.P., Hartog, A.H., and Leach, A.P. see Hartog, A.H.

Goldberg, L., Yurek, A.M., Taylor, H.F., and Weller, J.F. 35 GHz microwave signal generation with an injection-locked laser diode p814

Goldner, L., Hegarty, J., and Olsson, N.A. see Hegarty, J.

Golecki, I., and Maddox, R.L. see Maddox, R.L.

Gomyo, A., Kobayashi, K., Kawata, S., Hino, I., and Suzuki, T. see Kobayashi, K.

Goodfellow, R.C., Monham, K.L., Plastow, R., and Carter, A.C. see Monham, K.L.

Goodfellow, R.C., Sussmann, R.S., Ash, R.M., and Moseley, A.J. see Sussmann, R.S.

Goodwin, A.R., Whiteaway, J.E.A., and Thompson, G.H.B. see Whiteaway, J.E.A.

Goodwin, M.J., Bennion, I., and Stewart, W.J. see Bennion, I.

Gordon, J.A. How to forge RSA key certificates p377

Gorecki, J., and Ray, D. see Ray, D.

Gorgui-Naguib, R.N., and Leboyer, A. Determination of *P*-adic transform bases and lengths d905

Gossard, A.C., Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., and Wiegmann, W. see Wood, T.H.

Gottlieb, A.M., Hayward, G.A., Boyer, D.G., and Berthold, J.E. see Hayward, G.A.

Gottsmann, H., Arnold, G., Krumpholz, O., Schlosser, E., and Schurr, E.-A. see Arnold, G.

Govaerts, R., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Catthoor, F., Vandebroek, P., Slock, S., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.

Grant, P.M., and Panda, G. see Panda, G.

Grauerholz, D., Arndt, F., Bornemann, J., Fasold, D., and Schroeder, N. see Arndt, F.

Greco, O., Buonomo, A., and Di Bello, C. see Buonomo, A.

Green, R.T., and Lewis, C.R. see Lewis, C.R.

Greenberger, A.J. Digital transversal filter architecture p86

Greene, P.D., Renner, D., Collar, A.J., and Henshall, G.D. see Renner, D.

Greenhalgh, P.A., and Davies, P.A. Direct frequency modulation of a semiconductor laser by acoustic waves p246 e359

Greenhalgh, P.A., and Davies, P.A. Direct frequency modulation of a semiconductor laser by surface acoustic waves p598

Griem, T., Itoh, T., Wicks, G.W., and Eastman, L.F. see Itoh, T.

Griffin, E.J., and Hodgetts, T.E. Effect on return loss of dimensional tolerances of the aperture of rectangular waveguide p942

Griffiths, H.D., Long, N.R.W., and Schoenenberger, J.G. Phase accuracy and stability of quadrature IF demodulators p186

Großmann, E., Bachus, E.-J., Braun, R.-P., Eutin, W., Foisel, H., Heimes, K., and Strebel, B. see Bachus, E.-J.

Grot, D., Francois, P.L., Bayon, J.F., and Alard, F. see Francois, P.L.

Grote, N., Su, L.M., Schroeter-Janssen, H., and Li, K.C. see Su, L.M.

Guéret, P., Kaufmann, U., and Marclay, E. Tunnelling through very low barriers p344

Guillemin, B.J., and Nguyen, D.T. Computationally efficient algorithm for implementing multipulse LPC analysis p366

Guillon, P., Jiao, X.H., and Obregon, J. see Jiao, X.H.

Gulyaev, Y.V., Plessky, V.P., and Ten, Y.A. Shear transverse waves on corrugated surface of rotated *Y*-cut quartz p317

Gupta, H.M., Tavildar, A.S., and Gupta, S.N. see Tavildar, A.S.

Gupta, S.N., Tavildar, A.S., and Gupta, H.M. see Tavildar, A.S.

Guryanov, A.N., Abramov, A.A., Borkina, G.Yu., Bubnov, M.M., Dianov, E.M., and Mjakov, V.N. see Abramov, A.A.

Gutierrez, J.L., Kahoraho, E., and Dormido, S. see Kahoraho, E.

Guy, J.R.F. Proposal to use reflected signals through a single Butler matrix to produce multiple beams from a circular array antenna p209

Gwilliam, R., Shahid, M.A., and Sealy, B.J. see Shahid, M.A.

H

Habara, K., and Kikuchi, K. Optical time-division space switches using tree-structured directional couplers p631

Hagemann, H.J., Geittner, P., Warnier, J., Weling, F., and Wilson, H. see Geittner, P.

Hagimoto, K., and Suzuki, M. see Suzuki, M.

Hagishima, K., and Yamada, J. 400 Mbit/s CMI transmission experiment using a 1·3 μm LED p17

Haigh, D.G., Harrold, S.J., and Vance, I.A.W. see Harrold, S.J.

Halatsis, C., and Efstathiou, C. see Efstathiou, C.

Haidar, M.K., and Wah, T.K. see Wah, T.K.

Hall, A.G. Correlation and aliasing in the noise-cancelling switched-capacitor (SC) filtering technique p932

Hall, C.M., Andrasic, G., and James, J.R. Microstrip planar arrays with dielectric sphere overlays p356

Hall, K.L., Eisenstein, G., Jopson, R.M., Linke, R.A., Burrus, C.A., Koren, U., and Whalen, M.S. see Eisenstein, G.

Hall, K.L., Eisenstein, G., Korotky, S.K., Stulz, L.W., Veselka, J.J., and Jopson, R.M. see Eisenstein, G.

Hall, K.L., Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Veselka, J.J., Stulz, L.W., and Jopson, R.M. see Eisenstein, G.

Hall, K.L., Jhee, Y.K., Liou, K.-Y., and Burrus, C.A. see Jhee, Y.K.

Hall, K.L., Jopson, R.M., Eisenstein, G., and Earl, H.E. see Jopson, R.M.

Hall, K.L., Jopson, R.M., Eisenstein, G., and Simpson, J.R. see Jopson, R.M.

Hall, K.L., Liou, K.-Y., Jhee, Y.K., Burrus, C.A., and Anthony, P.J. see Liou, K.-Y.

Hall, M., and Love, J.D. see Love, J.D.

Hall, P.S., and Prior, C.J. see Prior, C.J.

Hall, R.D., Betts, R.A., and Moss, J.P. Bidirectional transmission over 11 km of single-mode optical fibre at 34 Mbit/s using 1·3 μm LEDs and directional couplers p628

Hamada, N., Katsube, Y., and Horiguchi, K. see Katsube, Y.

Hanawa, F., Shibata, S., and Nakahara, M. see Shibata, S.

Haneishi, M., and Takazawa, H. Broadband circularly polarised planar array composed of a pair of dielectric resonator antennas p437

Hanyi, Zhang, Bingkun, Zhou, and Jianglin, Wang see Bingkun, Zhou

Hardy, A., Streifer, W., Burnham, R.D., Thornton, R.L., and Scifres, D.R. see Streifer, W.

Hardy, A., Streifer, W., Burnham, R.D., and Scifres, D.R. see Streifer, W.

Harmon, R.A., Hodgkinson, T.G., and Smith, D.W. see Hodgkinson, T.G.

Harrison, A.J., and Swanson, J.G. Logic performance of Si_3N_4-n GaAs quasinormally off MISFETs p976
Harrold, S.J., Vance, I.A.W., and Haigh, D.G. Second-order switched-capacitor bandpass filter implemented in GaAs p494
Hartog, A.H., Leach, A.P., and Gold, M.P. Distributed temperature sensing in solid-core fibres p1061
Haruna, M., Belanger, M., and Yip, G.L. Passive 3-branch optical power divider by K^+-ion exchange in glass p535
Hasan, A.A.K., and Hasan, M.A.K. Two counter-examples to Siljak's conjecture p233
Hasan, M.A.K., and Hasan, A.A.K. see Hasan, A.A.K.
Hase, I., Kawai, H., Imanaga, S., Kaneko, K., and Watanabe, N. MOCVD-grown AlGaAs/GaAs hot-electron transistor with a base width of 30 nm p757
Hase, N., Morisaki, M., Ogura, M., and Kajiwara, T. see Morisaki, M.
Hase, N., Shibata, J., Mori, Y., Sasai, Y., Serizawa, H., and Kajiwara, T. see Shibata, J.
Hasegawa, H., Kitagawa, T., and Ohno, H. see Kitagawa, T.
Hashimoto, M. Beam waves with sources at complex location p1096
Hashizume, N., Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hayashi, Y., Kato, M., Endo, T., and Inage, H. see Matsumoto, K.
Hatano, S., Katsuyama, Y., Hogari, K., Matsumoto, T., and Kokubun, T. see Katsuyama, Y.
Hatton, W.H., and Nishimura, M. New field measurement system for single-mode fibre dispersion utilising wavelength division multiplexing technique p1072
Haug, A. Influence of doping on threshold current of semiconductor lasers p792
Haug, K., Maloberti, F., and Temes, G.C. Switched-capacitor integrators with low finite-gain sensitivity p1156
Hawkins, N.D., Steele, R., Rickard, D.C., and Shepherd, C.R. Path loss characteristics of 60 GHz transmissions p1054
Hawley, M.S., Conway, J., Seagar, A.D., Brown, B.H., and Barber, D.C. see Conway, J.
Hayashi, J., and Uji, T. see Uji, T.
Hayashi, K., Ida, Y., Jinno, M., Horii, T., and Arai, K. see Ida, Y.
Hayashi, K., Ida, Y., and Arai, K. Novel RF magnetic probe using LED linked with optical fibre p107
Hayashi, Y., Amemiya, M., and Ito, T. see Amemiya, M.
Hayashi, Y., Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hashizume, N., Kato, M., Endo, T., and Inage, H. see Matsumoto, K.
Hayashi, Y., and Kitazawa, T. see Kitazawa, T.
Haykin, S., Lewis, E.O., and Currie, B.W. see Lewis, E.O.
Haykin, S., and Zhang, Qi-tu see Zhang, Qi-tu
Hayward, G.A., Gottlieb, A.M., Boyer, D.G., and Berthold, J.E. High-speed 16 × 16 CMOS crosspoint switch p923
Healey, P. Effect of intermodulation in multichannel optical heterodyne systems p101
Healey, P. Statistics of Rayleigh backscatter from a single-mode optical fibre p226
Heard, P.J., Evason, A.F., Cleaver, J.R.A., and Ahmed, H. see Evason, A.F.
Hearn, C.P., Trew, R.J., and Bradshaw, E.S. see Trew, R.J.
Heatley, D.J.T. SNR comparison between two designs of PFM demodulator used to demodulate PFM or FM p214
Heatley, D.J.T., Lobbett, R.A., White, T.K., Farthing, A.J., Gilbert, K.I., Stallard, W.A., and Beaumont, A.R. Analogue video transmission over cabled monomode fibre using optical frequency modulation with heterodyne detection p717
Hee Shin, Dong, and Hyeong Cho, Gyu see Hyeong Cho, Gyu
Hegarty, J., Olsson, N.A., Logan, R.A., Johnson, L.F., Walker, K.L., Cohen, L.G., Kasper, B.L., and Campbell, J.C. see Olsson, N.A.
Hegarty, J., Olsson, N.A., and Goldner, L. CW pumped Raman preamplifier in a 45 km-long fibre transmission system operating at 1·5 μm and 1 Gbit/s p290
Hegarty, J., Olsson, N.A., and McGlashan-Powell, M. Measurement of the Raman crosstalk at 1·5 μm in a wavelength-division-multiplexed transmission system p395
Heime, K., and Schmitt, R. see Schmitt, R.
Heimes, K., Bachus, E.-J., Böhnke, F., Braun, R.-P., Eutin, W., Foisel, H., and Strebel, B. see Bachus, E.-J.
Heimes, K., Bachus, E.-J., Braun, R.-P., Eutin, W., Großmann, E., Foisel, H., and Strebel, B. see Bachus, E.-J.
Heinen, J.A., and Niederjohn, R.J. Circuit theoretic analysis of resonance transformers p866
Heinrich, H.K., Weingarten, K.J., Rodwell, M.J.W., Kolner, B.H., and Bloom, D.M. see Weingarten, K.J.
Hekimian, N.C. Active-*RC*-circuit synthesis for the simulation of a grounded inductor d15
Hemenway, B.R., Bowers, J.E., Bridges, T.J., Burkhardt, E.G., and Wilt, D.P. see Bowers, J.E.
Hemenway, B.R., Bowers, J.E., Koch, T.L., Wilt, D.P., Bridges, T.J., and Burkhardt, E.G. see Bowers, J.E.
Hemment, P.L.F., Cristoloveanu, S., Pumfrey, J., Scheid, E., and Arrowsmith, R.P. see Cristoloveanu, S.
Hendel, R.H., Shah, N.J., Pei, S.S., Tu, C.W., and Tiberio, R.C. see Shah, N.J.
Henderson, R.I. Crosspolarisation due to radial field components in reflector antennas p617
Hendry, A., and Antar, Y.M.M. see Antar, Y.M.M.
Henriques, L.M.D., and Da Silva, L.C. see Da Silva, L.C.
Henry, L., Loualiche, S., Parguel, V., L'Haridon, H., and Vaudry, C. see Loualiche, S.
Henry, M., Maheo, P., Thebault, C., and Vergos, J.C. 1·7 Gbit/s multiplexing-demultiplexing system for a high-bit-rate optical link p487
Henshall, G.D., Renner, D., Collar, A.J., and Greene, P.D. see Renner, D.
Hermansson, B., and Yevick, D. see Yevick, D.
Herrmann, J., Pelgrom, M.J.M., van Gijn, H.P., and Vreeswijk, F.W.P. see Pelgrom, M.J.M.
Higashi, T., Tsubokawa, M., Shibata, N., and Seikai, S. see Tsubokawa, M.
Hight, M.J., and Young, N.D. see Young, N.D.
Hill, G.R., Lobbett, R.A., and Stallard, W.A. Frequency multiplexing in an optical system using a Mach–Zehnder waveguide frequency translator p1214
Hilton, K.P., and Woodward, J. Via holes for GaAs MMICs fabricated using reactive ion etching p962
Himeno, A., Kobayashi, M., and Terui, H. High-silica single-mode optical reflection bending and intersecting waveguides p1020
Hinata, S., Kaneno, N., Kadowaki, T., Ohsawa, J., Aoyagi, T., Ikeda, K., and Susaki, W. see Kaneno, N.
Hinata, S., Ohsawa, J., Aoyagi, T., Kadowaki, T., Kaneno, N., Ikeda, K., and Susaki, W. see Ohsawa, J.
Hinds, D.J., and Stokoe, J.C.D. Optically induced latch-up and other effects in CMOS UVEPROMs p553
Hino, I., Kobayashi, K., Kawata, S., Gomyo, A., and Suzuki, T. see Kobayashi, K.
Hirose, A., Kikuchi, K., and Okoshi, T. see Kikuchi, K.
Hirose, Y., Ona, A., and Fukuda, T. Subharmonic modulation distortions in semiconductor lasers with optical feedback p685
Hirota, Y., Hisaki, T., and Mikami, O. Inversion-mode InP MISFET using a photochemical phosphorus nitride gate insulator p690
Hirota, Y., Okamura, M., Hisaki, T., and Mikami, O. Improvement of InP MISFET characteristics using infra-red lamp annealing p686
Hirota, Y., and Mikami, O. Photochemical vapour deposition of phosphorus nitride using an ArF excimer laser p77
Hisaki, T., Hirota, Y., Okamura, M., and Mikami, O. see Hirota, Y.
Hisaki, T., Hirota, Y., and Mikami, O. see Hirota, Y.
Hiyamizu, S., Muto, S., Imamura, K., Yokoyama, N., and Nishi, H. see Muto, S.
Ho, P.-T., Dimmick, T.E., and Burdge, G.L. see Dimmick, T.E.
Hök, B., and Tenerz, L. see Tenerz, L.
Hobbs, R.E., Nelson, A.W., Devlin, W.J., Lenton, C.G.D., and Wong, S. see Nelson, A.W.
Hobbs, R.E., Nelson, A.W., Wong, S., Regnault, J.C., Murrell, D.L., and Walling, R.H. see Nelson, A.W.
Hodgetts, T.E., and Griffin, E.J. see Griffin, E.J.
Hodgkinson, T.G. Phase-locked-loop analysis for pilot carrier coherent optical receivers p1202
Hodgkinson, T.G., Harmon, R.A., and Smith, D.W. Demodulation of optical DPSK using in-phase and quadrature detection p867
Hodgkinson, T.G., Mogensen, F., and Smith, D.W. see Mogensen, F.
Hodgkinson, T.G., Stallard, W.A., Preston, K.R., and Booth, R.C. see Stallard, W.A.
Hoefer, W.J.R., and El-Ghazaly, S. see El-Ghazaly, S.
Hoefer, W.J.R., and Vahldieck, R. see Vahldieck, R.
Hogari, K., Katsuyama, Y., Hatano, S., Matsumoto, T., and Kokubun, T. see Katsuyama, Y.
Hogari, K., and Katsuyama, Y. Tensile strength of optical fibre ribbon p39
Hoi, C.S., and Lam, Y.W. Open-circuit voltage of induced/surface-doped junction solar cells p1157
Holden, W.S., Campbell, J.C., Ferguson, J.F., Dentai, A.G., and Jhee, Y.K. Improved frequency response of InP/InGaAsP/InGaAs avalanche photodiodes with separate absorption, grading and multiplication regions p886
Holejko, K., and Siuzdak, J. Transfer characteristic of a linear phase detector for variable phase p1012
Holmes, G.C. Novel technique for measurement of MOSFET threshold voltage at very low channel currents p544
Holmes-Siedle, A., Adams, L., Pauly, B., and Marsden, S. Linearity of *p*MOS radiation dosimeters operated at zero bias p570
Holt, A.G.J., Maras, A.M., and Davidson, H.D. see Maras, A.M.
Holubowicz, W. Method of calculating minimum distance for suboptimum receivers p892
Holwill, R., Walton, A.J., Robertson, J.M., and Moore, B. see Walton, A.J.
Holwill, R., Walton, A.J., Robertson, J.M., and Moore, M.B. see Walton, A.J.
Holwill, R., Walton, A.J., and Robertson, J.M. see Walton, A.J.
Hong, C.S., Yang, J.J., Niesen, J., and Figueroa, L. see Yang, J.J.
Hong, Z., and Melchior, H. Analogue four-quadrant CMOS multiplier with resistors 1531
Hong, Z., and Melchoir, H. Four quadrant multiplier core with lateral bipolar transistor in CMOS technology p72
Hoole, S.R.H. Fictitious potential for 3-D magnetic flux plots p15
Hopkins, L.C., Dupuis, R.D., and Temkin, H. see Dupuis, R.D.
Horiguchi, K., Katsube, Y., and Hamada, N. see Katsube, Y.
Horiguchi, M., Hosaka, T., Sasaki, Y., and Noda, J. see Hosaka, T.
Horii, T., Ida, Y., Hayashi, K., Jinno, M., and Arai, K. see Ida, Y.
Horimatsu, T., Iwama, T., Oikawa, Y., Touge, T., Wada, O., and Nakagami, T. 400 Mbit/s transmission experiment using two monolithic optoelectronic chips p319
Horio, Y., and Mori, S. Switched-capacitor lossless discrete differentiator with modified sample-and-hold sequence p1036
Hosaka, T., Sasaki, Y., Noda, J., and Horiguchi, M. Low-loss and low-crosstalk polarisation-maintaining optical fibres p920
Hosaka, T., Sasaki, Y., and Noda, J. see Sasaki, Y.
Hosaka, T., Sasaki, Y., and Okamoto, K. 3 km-long single-polarisation single-mode fibre p1023
Hosticka, B.J., Lamkemeyer, M., Brockherde, W., and Richert, P. see Lamkemeyer, M.
Hotate, K., and Nakano, H. see Nakano, H.
Houng, Y.M., Lin, S.H., Wang, S.Y., and Newton, S.A. see Lin, S.H.
Houston, P.A., Chand, N., and Robson, P.N. see Chand, N.
Hsiao, J.K. Design of error tolerance of a phased array p834
Hsu, Ting-Ih, Berenz, J., Nakano, K., and Goel, J. see Berenz, J.
Hu, H.K., Colinge, J.P., and Peng, S. see Colinge, J.P.
Huang, J.C., Wicks, G.W., Calawa, A.R., and Eastman, L.F. Optimised HEMT structure with an $Al_{0.45}Ga_{0.55}As$ spacer and an $Al_{0.20}Ga_{0.80}As$ doped region p925
Huang, T.-Y. Effects of channel shapes on MOSFET hot-electron resistance p211
Huder, B. 94 GHz dielectric slab-line leaky-wave antenna p536
Hudgens, R.D., and Macksey, H.M. see Macksey, H.M.
Humphreys, D.A., King, R.J., Jenkins, D., and Moseley, A.J. Measurement of absorption coefficients of $Ga_{0.47}In_{0.53}As$ over the wavelength range 1·0–1·7 μm p1187
Hunter, J.D., and Somlo, P.I. S-parameter measurements with a single six-port p157
Hunter, J.D., and Somlo, P.I. Simple derivation of six-port reflectometer equations p370
Hussey, C.D., Payne, F.P., and Yataki, M.S. see Payne, F.P.
Hussey, C.D., and Martinez, F. Approximate analytic forms for the propagation characteristics of single-mode optical fibres p1103
Hwang, Chyi, and Yung, Chee-Fai see Yung, Chee-Fai
Hyeong Cho, Gyu, and Hee Shin, Dong New wide-range fast-response analogue measurement of frequency p1034

I

Ichikawa, M., and Fujise, M. see Fujise, M.
Ida, Y., Hayashi, K., Jinno, M., Horii, T., and Arai, K. New method for polarisation alignment of birefringent fibre with laser diode p18
Ida, Y., Hayashi, K., and Arai, K. see Hayashi, K.
Idda, M., Takada, T., Saito, S., and Kato, N. see Takada, T.
Iga, K., Chailertvanitkul, A., and Moriki, K. see Chailertvanitkul, A.
Iga, K., Kokubun, Y., Suzuki, S., and Iijima, Y. see Kokubun, Y.
Iga, K., Kokubun, Y., and Baba, T. see Kokubun, Y.
Iga, K., and Koyama, F. see Koyama, F.
Iga, K., and Uchiyama, S. see Uchiyama, S.
Iijima, Y., Kokubun, Y., Suzuki, S., and Iga, K. see Kokubun, Y.
Iizuka, Y., Nitta, K., Komatsubara, T., Kinoshita, H., Nakamura, M., and Beppu, T. see Nitta, K.
Ikeda, K., Kaneno, N., Kadowaki, T., Ohsawa, J., Aoyagi, T., Hinata, S., and Susaki, W. see Kaneno, N.
Ikeda, K., Ohsawa, J., Hinata, S., Aoyagi, T., Kadowaki, T., Kaneno, N., and Susaki, W. see Ohsawa, J.
Ikeda, M. Tandem switching characteristics for laser diode optical switches p252

Ikeda, M., and Matsunaga, T. see Matsunaga, T.
Ikegami, T., Motosugi, G., and Yoshikuni, Y. see Motosugi, G.
Ikegami, T., Yoshikuni, Y., Motosugi, G., and Kurumada, K. see Yoshikuni, Y.
Ikuta, Y., Imoto, K., and Maeda, M. see Imoto, K.
Ilyas, M. Congestion avoidance in computer networks p1161
Imai, H., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Ishikawa, H., Isozumi, S., and Yamakoshi, S. see Wakao, K.
Imai, T., Nosu, K., and Yamaguchi, H. Optical polarisation control utilising an optical heterodyne detection scheme p52
Imamoto, H., Nakagawa, T., Sakamoto, T., Kojima, T., Ohta, K., and Kawai, N.J. see Nakagawa, T.
Imamura, K., Muto, S., Yokoyama, N., Hiyamizu, S., and Nishi, H. see Muto, S.
Imamura, K., Ohnishi, T., Shigaki, M., Yokoyama, N., and Nishi, H. Au/TiN/WSi-gate self-aligned GaAs MESFETs using rapid thermal annealing method p804
Imanaga, S., Hase, I., Kawai, H., Kaneko, K., and Watanabe, N. see Hase, I.
Imoto, K., Ikuta, Y., and Maeda, M. New biconically tapered fibre star coupler: structure and fabrication p514
In Baek, Je, and Kim, Jae-Kyoon New DC-free line code of minimum bandwidth with increased eye width p755 e1003
Inage, H., Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hayashi, Y., Hashizume, N., Kato, M., and Endo, T. see Matsumoto, K.
Inai, M., Usui, A., Matsumoto, T., Mito, I., Kobayashi, K., and Watanabe, H. see Usui, A.
Ingram, D.G.W., and Tan, B.T. Performance of a Fourier transform data transmission system p1014
Inomata, H., Kinoshita, H., Ishida, T., Akiyama, M., Sano, Y., Nishi, S., and Kaminishi, K. see Kinoshita, H.
Inooka, H. Alternative approach to Zakian's I_{MN} approximant in numerical initial-value problems p1021
Inoue, K., Toba, H., and Nosu, K. see Toba, H.
Inoue, K., Toba, H., and Nosu, K. Tunable optical multi/demultiplexer for optical FDM transmission system p387
Inoue, K., and Kawakami, T. Three-terminal operation of InAs-coupled Josephson devices by quasiparticle injection p918
Inoue, N., Shinohara, S., Yoshida, H., and Sumi, M. see Shinohara, S.
Inoue, T., Yokoshima, I., and Sasaki, M. High-performance thin-film barretter mount for power measurement in W-band p170
Inoue, T., and Ueno, F. Switched-capacitor ladder filters with zero worst-case sensitivity at reflection zeros p1000
Ishida, T., Kinoshita, H., Akiyama, M., Inomata, H., Sano, Y., Nishi, S., and Kaminishi, K. see Kinoshita, H.
Ishihara, K., Noguchi, K., Uesugi, N., Shibata, N., and Negishi, Y. see Noguchi, K.
Ishihara, K., Yoshizawa, N., Ohnishi, M., and Negishi, Y. see Yoshizawa, N.
Ishii, M., Mannoh, M., Yuasa, T., Asakawa, K., and Shinozaki, K. see Mannoh, M.
Ishikawa, H., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Ishikawa, M., Ohba, Y., Sugawara, H., Yamamoto, M., and Nakanisi, T. CW operation at -10°C for InGaAlP visible light laser diodes grown by MOCVD p1084
Ishino, M., Fujita, T., Ohya, J., Matsuda, K., Sato, H., and Serizawa, H. see Fujita, T.
Ishiwara, H., Asano, T., and Kuriyama, Y. see Asano, T.
Isozumi, S., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Ishikawa, H., Yamakoshi, S., and Imai, H. see Wakao, K.
Ito, T., Amemiya, M., and Hayashi, Y. see Amemiya, M.
Itoh, H., Ohmori, Y., and Nakahara, M. Hydroxyl production in optical fibres coated with hydrogen-free plastic materials p206
Itoh, T., Griem, T., Wicks, G.W., and Eastman, L.F. Sheet electron concentration at the heterointerface in $Al_{0.48}In_{0.52}As/Ga_{0.47}In_{0.53}As$ modulation-doped structures p373
Itoh, T., Mu, T.C., and Ogawa, H. see Mu, T.C.
Itoh, T., and Chu, T.S. see Chu, T.S.
Iwama, T., Horimatsu, T., Oikawa, Y., Touge, T., Wada, O., and Nakagami, T. see Horimatsu, T.
Iwane, G., Fujita, O., and Nakano, Y. see Fujita, O.
Izumi, K., Nakashima, S., and Kanamori, S. see Nakashima, S.

J

Jackel, J.L. Proton exchange in MgO-doped $LiNbO_3$ p509
Jackson, D.A., Corke, M., Jones, J.D.C., and Kersey, A.D. see Corke, M.
Jackson, D.J., and Persechini, D.L. Waveguide formation in bulk GaAs and InP materials p44
Jacobs, J.F., van Bochove, A.C., and Nijnuis, H.T. see van Bochove, A.C.
Jacobsen, G., Mogensen, F., and Olesen, H. see Mogensen, F.
Jacobsen, G., and Garrett, I. see Garrett, I.
Jacobsen, G., and Garrett, I. Error-rate floor in optical ASK heterodyne systems caused by nonzero (semiconductor) laser linewidth p268
Jain, N.K., Visweswaran, G.S., and Bhattacharyya, A.B. see Visweswaran, G.S.
Jain, S.K., and Ezekiel, S. Stabilisation of external optical feedback phase in a semiconductor laser p957
Jain, Y.M., and Watson, P.A. Attenuation in melting snow on microwave- and millimetre-wave terrestrial radio links p68
Jajszczyk, A. Cost-effective digital switching network p909
Jajszczyk, A., and Kabacinski, W. Rearrangeable one-sided switching networks composed of uniform time-space elements p285
James, J.R., Hall, C.M., and Andrasic, G. see Hall, C.M.
Janiczak, B.J. Phase velocity compensation in three-line coupled microstrip structure by using stratified dielectric substrate p145
Janson, M., Thylén, L., Djupsjöbacka, A., and Döldissen, W. see Thylén, L.
Jayadev, T.S., Okazaki, E., Petersen, H., and Millman, M. Lateral epitaxial overgrowth of silicon over recessed oxide p327
Jeddari, L., Mahdjoubi, K., Terret, C., and Daniel, J.P. Broadband conical microstrip antenna p896
Jenkins, D., Humphreys, D.A., King, R.J., and Moseley, A.J. see Humphreys, D.A.
Jhee, Y.K., Holden, W.S., Campbell, J.C., Ferguson, J.F., and Dentai, A.G. see Holden, W.S.
Jhee, Y.K., Liou, K.-Y., Burrus, C.A., Hall, K.L., and Anthony, P.J. see Liou, K.-Y.
Jhee, Y.K., Liou, K.-Y., Burrus, C.A., and Hall, K.L. Linewidth reduction of cleaved-coupled-cavity lasers by optical feedback from a single-mode polarisation-preserving fibre external cavity p1146
Jiang, C.L., Cheng, W.H., Perillo, L., Forouhar, S., Kim, O.K., and Sheem, S.K. see Cheng, W.H.
Jianglin, Wang, Bingkun, Zhou, and Hanyi, Zhang see Bingkun, Zhou
Jiao, X.H., Guillon, P., and Obregon, J. Theoretical analysis of the coupling between whispering-gallery dielectric resonator modes and transmission lines p88
Jin-Guang, Chen, and Wen-Hong, Shi Theoretical investigation of a stripline planar antenna p674 e775
Jinno, M., Ida, Y., Hayashi, K., Horii, T., and Arai, K. see Ida, Y.
Jochem, C.M.G., and van der Ligt, J.W.C. Method for cooling and bubble-free coating of optical fibres at high drawing rates p786
Johnson, L.F., Olsson, N.A., Hegarty, J., Logan, R.A., Walker, K.L., Cohen, L.G., Kasper, B.L., and Campbell, J.C. see Olsson, N.A.
Jones, J.D.C., Corke, M., Kersey, A.D., and Jackson, D.A. see Corke, M.
Jones, S.G., Nourshargh, N., Starr, E.M., and Fox, N.I. see Nourshargh, N.
Jopson, R.M., Boyd, G.D., Soccolich, C.E., Bowers, J.E., Koch, T.L., and Burrus, C.A. see Boyd, G.D.
Jopson, R.M., Eisenstein, G., Earl, H.E., and Hall, K.L. Bulk optical isolator tunable from 1·2 μm to 1·7 μm p783
Jopson, R.M., Eisenstein, G., Hall, K.L., and Simpson, J.R. Microlenses for stressed-cladding polarisation-preserving fibre p758
Jopson, R.M., Eisenstein, G., Korotky, S.K., Stulz, L.W., Veselka, J.J., and Hall, K.L. see Eisenstein, G.
Jopson, R.M., Eisenstein, G., Linke, R.A., Burrus, C.A., Koren, U., Whalen, M.S., and Hall, K.L. see Eisenstein, G.
Jopson, R.M., Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Veselka, J.J., Stulz, L.W., and Hall, K.L. see Eisenstein, G.
Jullien, G.A., Bayoumi, M.A., and Miller, W.C. see Bayoumi, M.A.

K

Kabacinski, W., and Jajszczyk, A. see Jajszczyk, A.
Kachi, S., Ghosh, G., Sasaki, Y., and Kimura, M. see Ghosh, G.
Kadowaki, T., Kaneno, N., Ohsawa, J., Aoyagi, T., Hinata, S., Ikeda, K., and Susaki, W. see Kaneno, N.
Kadowaki, T., Ohsawa, J., Hinata, S., Aoyagi, T., Kaneno, N., Ikeda, K., and Susaki, W. see Ohsawa, J.
Kahoraho, E., Gutierrez, J.L., and Dormido, S. Inversion algorithm to construct Routh approximants p424
Kaito, K., Nakamura, M., and Ozeki, T. see Nakamura, M.
Kaji, T., Yamashita, K., Kinoshita, T., Takasaki, Y., Maeda, M., and Maeda, N. see Yamashita, K.
Kajiwara, T., Morisaki, M., Ogura, M., and Hase, N. see Morisaki, M.
Kajiwara, T., Shibata, J., Mori, Y., Sasai, Y., Hase, N., and Serizawa, H. see Shibata, J.
Kalish, D., Shang, H.-T., Lenahan, T.A., and Glodis, P.F. see Shang, H.-T.
Kaminishi, K., Kinoshita, H., Ishida, T., Akiyama, M., Inomata, H., Sano, Y., and Nishi, S. see Kinoshita, H.
Kampfer, A., Bouadma, N., and Riou, J. see Bouadma, N.
Kampmann, M., Matkey, K., and Meckelburg, H.-J. see Matkey, K.
Kanamori, S., Nakashima, S., and Izumi, K. see Nakashima, S.
Kaneko, K., Hase, I., Kawai, H., Imanaga, S., and Watanabe, N. see Hase, I.
Kaneno, N., Kadowaki, T., Ohsawa, J., Aoyagi, T., Hinata, S., Ikeda, K., and Susaki, W. Phased array of AlGaAs multistripe index-guided lasers p780
Kaneno, N., Ohsawa, J., Hinata, S., Aoyagi, T., Kadowaki, T., Ikeda, K., and Susaki, W. see Ohsawa, J.
Karim, M.A. Measurement of Gaussian beam diameter using Ronchi rulings p427
Kasahara, J., Arai, M., and Watanabe, N. Extremely uniform threshold voltage distribution of GaAs FET made on LEC-grown crystals p1040
Kasper, B.L., Campbell, J.C., Gnauck, A.H., Dentai, A.G., and Talman, J.R. SAGM avalanche photodiode optical receiver for 2 Gbit/s and 4 Gbit/s p982
Kasper, B.L., Chen, C.Y., and Garbinski, P.A. see Chen, C.Y.
Kasper, B.L., Olsson, N.A., Hegarty, J., Logan, R.A., Johnson, L.F., Walker, K.L., Cohen, L.G., and Campbell, J.C. see Olsson, N.A.
Kasper, B.L., Stone, J., and Chraplyvy, A.R. see Stone, J.
Katakol, B.S., and Maskara, S.L. Computationally efficient modified Fano algorithm for sequential decoding p1109
Kato, H., Ohira, T., Araki, K., and Tanaka, T. see Ohira, T.
Kato, K., Nishi, I., and Oguchi, T. see Nishi, I.
Kato, M., Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hayashi, Y., Hashizume, N., Endo, T., and Inage, H. see Matsumoto, K.
Kato, N., Akazawa, Y., Wakimoto, T., Kikuchi, H., Kawarada, K., and Ohwada, K. see Akazawa, Y.
Kato, N., Takada, T., Saito, S., and Idda, M. see Takada, T.
Kato, Y., Takakuwa, H., Watanabe, S., and Mori, Y. see Takakuwa, H.
Kato, Y., Yanase, T., Kitamura, M., Nishi, K., Yamaguchi, M., Nishimoto, H., Mito, I., and Lang, R. Improved high-temperature performance of 1·52 μm InGaAsP laser diodes fabricated by two-step VPE and LPE p293
Katsube, Y., Horiguchi, K., and Hamada, N. System reduction by continued-fraction expansion about $s = j\omega_i$ p678
Katsuyama, Y., Hatano, S., Hogari, K., Matsumoto, T., and Kokubun, T. Single-mode optical-fibre ribbon cable p134
Katsuyama, Y., and Hogari, K. see Hogari, K.
Katz, J., and Marshall, W.K. Gain saturation effects in supermodes of phase-locked semiconductor laser arrays p974
Kaufmann, U., Guéret, P., and Marclay, E. see Guéret, P.
Kawachi, M., Terui, H., Yamada, Y., and Kobayashi, M. see Terui, H.
Kawachi, M., Yamada, Y., Yasu, M., and Kobayashi, M. Guided-wave optical wavelength-division multi/demultiplexer using high-silica channel waveguides p314
Kawai, H., Hase, I., Imanaga, S., Kaneko, K., and Watanabe, N. see Hase, I.
Kawai, N.J., Nakagawa, T., Imamoto, H., Sakamoto, T., Kojima, T., and Ohta, K. see Nakagawa, T.
Kawakami, T., and Inoue, K. see Inoue, K.
Kawamura, Y., Asahi, H., Kohzen, A., and Wakita, K. Disordering by Zn-diffusion of InGaAs/InAlAs MQW superlattice structure grown by MBE p218
Kawamura, Y., Wakita, K., Yoshikuni, Y., Asahi, H., and Uehara, S. see Wakita, K.
Kawamura, Y., Wakita, K., Yoshikuni, Y., and Asahi, H. see Wakita, K.
Kawamura, Y., Wakita, K., and Asahi, H. see Wakita, K.
Kawamura, Y., Wakita, K., and Asahi, H. High-temperature heavy-hole and light-hole excitons and well-width dependence of excitons in InGaAs/InAlAs multiple-quantum-well structures p1168
Kawamura, Y., Wakita, K., and Asahi, H. Observation of heavy-hole and light-hole excitons in InGaAs/InAlAs MQW structures at room temperature p371
Kawanishi, S., Yoshikai, N., Suzuki, M., and Konaka, S. see Yoshikai, N.
Kawano, K., Miyazawa, H., and Mitomi, O. Effective calculation method for laser-diode/multimode-fibre coupling p609
Kawarada, K., Akazawa, Y., Wakimoto, T., Kikuchi, H., Kato, N., and Ohwada, K. see Akazawa, Y.
Kawarada, K., Kikuchi, H., Konaka, S., and Umehira, M. see Kikuchi, H.
Kawata, O., Tsutsumi, S., Kitazawa, I., and Kimoto,

H. see Tsutsumi, S.
Kawata, S., Kobayashi, K., Gomyo, A., Hino, I., and Suzuki, T. see Kobayashi, K.
Kazmierski, K., Poulain, P., Razeghi, M., Blondeau, R., and Philippe, P. see Poulain, P.
Keen, K.M. Design criterion for inclined planar radomes on radar corner reflectors used for spaceborne SAR calibration p548
Keen, N.J. Hot-electron noise limitations in submillimetre-wave Schottky-barrier mixer diodes p2
Kennis, P., Pribetich, P., and Seguinot, C. see Pribetich, P.
Kennis, P., Roudot, B., Terret, C., Daniel, J.P., and Pribetich, P. see Roudot, B.
Kennis, P., Seguinot, C., El Kadiri, M., Pribetich, P., and Villotte, J.P. see Seguinot, C.
Kersey, A.D., Corke, M., Jones, J.D.C., and Jackson, D.A. see Corke, M.
Kersey, A.D., Dandridge, A., Tveten, A.B., and Giallorenzi, T.G. Single-mode fibre Fourier transform spectrometer p463
Kersey, A.D., and Dandridge, A. Optical fibre Faraday rotation current sensor with closed-loop operation p464
Ketterson, A., Masselink, W.T., Klem, J., Kopp, W., and Morkoç, H. see Masselink, W.T.
Khuri-Yakub, B.T., Fox, J.D., and Kino, G.S. see Fox, J.D.
Kiermasz, A., Barlow, K.J., and Eccleston, W. see Barlow, K.J.
Kihara, K., Wakao, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Isnikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Kikuchi, H., Akazawa, Y., Wakimoto, T., Kawarada, K., Kato, N., and Ohwada, K. see Akazawa, Y.
Kikuchi, H., Konaka, S., Kawarada, K., and Umehira, M. Gigahertz-band analogue switch using bipolar super self-aligned process technology p854
Kikuchi, K. Calculated field spectra of semiconductor lasers near threshold p705
Kikuchi, K., Fukushima, T., and Okoshi, T. Stripe-structure dependence of frequency modulation characteristics of AlGaAs lasers p1088
Kikuchi, K., Okoshi, T., and Cheng, Y.H. see Okoshi, T.
Kikuchi, K., Okoshi, T., and Fukaya, N. see Okoshi, T.
Kikuchi, K., Okoshi, T., and Hirose, A. Achievement of shot-noise-limited sensitivity and 50 dB dynamic range by photon-counting receiver using Si avalanche photodiode p801
Kikuchi, K., and Habara, K. see Habara, K.
Kikuchi, K., and Okoshi, T. Dependence of semiconductor laser linewidth on measurement time: evidence of predominance of 1/*f* noise p1011
Kikuchi, K., and Okoshi, T. Measurement of field spectra of 1·3 μm InGaAsP DFB lasers p217
Kim, B., Tserng, H.Q., Tiku, S.K., and Shih, H.D. AlGaAs/GaAs heterojunction bipolar power transistors p258
Kim, B., and Tserng, H.Q. see Tserng, H.Q.
Kim, Jae-Kyoon, and In Baek, Je see In Baek, Je
Kim, O.K., Cheng, W.H., Perillo, L., Forouhar, S., Jiang, C.L., and Sheem, S.K. see Cheng, W.H.
Kimoto, H., Tsutsumi, S., Kitazawa, I., and Kawata, O. see Tsutsumi, S.
Kimura, M., Ghosh, G., Kachi, S., and Sasaki, Y. see Ghosh, G.
Kimura, T., Shimizu, H., Miyagi, H., and Noda, K. Time division multiplexed OTDR system p1070
Kimura, Y., Shibata, N., Tsubokawa, M., and Seikai, S. see Shibata, N.
King, C.A., and Downs, D.A. New endfire radiator p1159
King, R.J., Humphreys, D.A., Jenkins, D., and Moseley, A.J. see Humphreys, D.A.
King, W.C., Saul, R.H., Olsson, N.A., Zipfel, C.L., Chin, B.H., Chin, A.K., Camlibel, I., and Minneci, G. see Saul, R.H.
Kingsbury, N.G., and Thorpe, T.F. see Thorpe, T.F.
Kingsley, S.A., and Davies, D.E.N. OFDR diagnostics for fibre and integrated-optic systems p434
Kino, G.S., Fox, J.D., and Khuri-Yakub, B.T. see Fox, J.D.
Kinoshita, H., Ishida, T., Akiyama, M., Inomata, H., Sano, Y., Nishi, S., and Kaminishi, K. New insulated-gate inverted-structure AlGaAs/GaAs/*n*-AlGaAs HEMT ring oscillator p1062
Kinoshita, H., Nitta, K., Komatsubara, T., Iizuka, Y., Nakamura, M., and Beppu, T. see Nitta, K.
Kinoshita, T., Yamashita, K., Takasaki, Y., Maeda, M., Kaji, T., and Maeda, N. see Yamashita, K.
Kirkpatrick, C.G., Chang, M.F., Ryan, F.J., and Vahrenkamp, R.P. see Chang, M.F.
Kishida, S., Aoki, Y., Washio, K., and Minemura, K. see Aoki, Y.
Kishore, R., Singh, S.N., and Singh, P.K. see Singh, S.N.
Kita, S., Yamaguchi, A., and Fujisawa, K. see Yamaguchi, A.
Kitagawa, T., Hasegawa, H., and Ohno, H. Surface electrical breakdown and leakage current on semi-insulating InP p299
Kitamura, M., Kato, Y., Yanase, T., Nishi, K., Yamaguchi, M., Nishimoto, H., Mito, I., and Lang, R. see Kato, Y.
Kitamura, M., Sugou, S., Nishimoto, H., Mito, I., and Yanase, T. see Sugou, S.
Kitamura, M., Yamaguchi, M., Murata, S., Mito, I., and Kobayashi, K. see Yamaguchi, M.
Kitazawa, I., Tsutsumi, S., Kimoto, H., and Kawata, O. see Tsutsumi, S.
Kitazawa, T., and Hayashi, Y. Analysis of asymmetrical coplanar waveguide and coplanar strip lines with anisotropic substrate p986
Kitazawa, T., and Hayashi, Y. Coupled coplanar waveguide with anisotropic substrate p1197
Klein, M.B., Glass, A.M., and Valley, G.C. see Glass, A.M.
Klem, J., Masselink, W.T., Ketterson, A., Kopp, W., and Morkoç, H. see Masselink, W.T.
Knight, W.L., Paraskeva, M., and Burrows, D.F. see Paraskeva, M.
Kölzer, P. Precise control of Reggia–Spencer phase shifter p868
Kobayashi, K., Kawata, S., Gomyo, A., Hino, I., and Suzuki, T. 661·7 nm room-temperature CW operation of AlGaInP double-heterostructure lasers with aluminium-containing quaternary active layer p1162
Kobayashi, K., Kawata, S., Gomyo, A., Hino, I., and Suzuki, T. Room-temperature CW operation of AlGaInP double-heterostructure visible lasers p931
Kobayashi, K., Usui, A., Matsumoto, T., Inai, M., Mito, I., and Watanabe, H. see Usui, A.
Kobayashi, K., Yamaguchi, M., Kitamura, M., Murata, S., and Mito, I. see Yamaguchi, M.
Kobayashi, M., Himeno, A., and Terui, H. see Himeno, A.
Kobayashi, M., Kawachi, M., Yamada, Y., and Yasu, M. see Kawachi, M.
Kobayashi, M., Terui, H., Yamada, Y., and Kawachi, M. see Terui, H.
Koch, T.L., Bowers, J.E., Hemenway, B.R., Wilt, D.P., Bridges, T.J., and Burkhardt, E.G. see Bowers, J.E.
Koch, T.L., Boyd, G.D., Soccolich, C.E., Bowers, J.E., Burrus, C.A., and Jopson, R.M. see Boyd, G.D.
Koch, T.L., and Lin, C. see Lin, C.
Koentjoro, S., Eda, N., Furuya, K., and Suematsu, Y. 1·5 μm phase-shifted DFB laser by EBX and mass-transport technique p525
Koga, H., Abe, T., and Mitsunaga, Y. see Abe, T.
Koga, H., Mitsunaga, Y., and Kuwabara, T. Hydrogen generation due to decomposition of carboxymethyl-cellulose in muddy water p902
Kohda, S., Sakai, S., Minagawa, C., and Masuda, K. see Sakai, S.
Kohzen, A., Kawamura, Y., Asahi, H., and Wakita, K. see Kawamura, Y.
Koishi, M., Mochizuki, K., Fujise, M., Suzuki, H., Watanabe, M., and Tsuchiya, T. see Mochizuki, K.
Kojima, T., Nakagawa, T., Imamoto, H., Sakamoto, T., Ohta, K., and Kawai, N.J. see Nakagawa, T
Kokubun, T., Katsuyama, Y., Hatano, S., Hogari, K., and Matsumoto, T. see Katsuyama, Y.
Kokubun, Y., Baba, T., and Iga, K. Silicon optical printed circuit board for three-dimensional integrated optics p508
Kokubun, Y., Suzuki, S., Iijima, Y., and Iga, K. Mesh waveguide optical star coupler p482
Kolinsky, P.V., Girling, I.R., Cade, N.A., and Montgomery, C.M. see Girling, I.R.
Kolner, B.H., Weingarten, K.J., Rodwell, M.J.W., Heinrich, H.K., and Bloom, D.M. see Weingarten, K.J.
Komatsu, K., Emura, K., Shikada, M., Yamazaki, S., Mito, I., and Minemura, K. see Emura, K.
Komatsubara, T., Nitta, K., Kinoshita, H., Iizuka, Y., Nakamura, M., and Beppu, T. see Nitta, K.
Komori, K., Tohmori, Y., Arai, S., and Suematsu, Y. see Tohmori, Y.
Konaka, S., Kikuchi, H., Kawarada, K., and Umehira, M. see Kikuchi, H.
Konaka, S., Yoshikai, N., Kawanishi, S., and Suzuki, M. see Yoshikai, N.
Koonar, S.S., and Sohal, J.S. Generation of a class of two-variable impedance functions from their real part using a state-variable technique p1046
Kopp, W., Masselink, W.T., Ketterson, A., Klem, J., and Morkoç, H. see Masselink, W.T.
Koren, U., Eisenstein, G., Bowers, J.E., Gnauck, A.H., and Tien, P.K. Wide-bandwidth modulation of three-channel buried-crescent laser diodes p500
Koren, U., Eisenstein, G., Jopson, R.M., Linke, R.A., Burrus, C.A., Whalen, M.S., and Hall, K.L. see Eisenstein, G.
Koren, U., Eisenstein, G., Tucker, R.S., Korotky, S.K., Veselka, J.J., Stulz, L.W., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Koren, U., Penna, T.C., and Tien, P.K. Heterojunction phototransistors on *n*-channelled semi-insulating InP substrates p346
Koren, U., Tucker, R.S., Korotky, S.K., Eisenstein, G., Stulz, L.W., and Veselka, J.J. see Tucker, R.S.
Korn, I. Effect of correlated noise on error probability of binary frequency shift keying with limiter-discriminator-detector and narrowband filters p481
Korotky, S.K., Eisenstein, G., Stulz, L.W., Veselka, J.J., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Korotky, S.K., Eisenstein, G., Tucker, R.S., Koren, U., Veselka, J.J., Stulz, L.W., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Korotky, S.K., Tucker, R.S., Eisenstein, G., Koren, U., Stulz, L.W., and Veselka, J.J. see Tucker, R.S.
Koshiba, M., Kumagami, H., and Suzuki, M. Numerical solution of silicon-clad diffused planar optical waveguides p340
Koshiba, M., and Suzuki, M. Vectorial wave analysis of optical waveguides with rectangular cross-section using equivalent network approach p1026
Koszi, L.A., Chin, A.K., Segner, B.P., Shen, T.M., and Dutta, N.K. 1·3 μm InP/InGaAsP channelled-substrate buried-heterostructure laser monolithically integrated with a photodetector p1209
Kováts, J. Simple formulas for the characteristics of limiter phase detectors p997
Kowalsky, W., and Schlachetzki, A. Current instabilities in $Ga_{0.47}In_{0.53}As$ transferred-electron devices p1192
Koyama, F., and Iga, K. Frequency chirping of external modulation and its reduction p1065
Krause, J.T., and Kurkjian, C.R. Fibre splices with 'perfect fibre' strengths of 5·5 GPa, $v < 0{\cdot}01$ p533
Krauser, J., Bornholdt, C., and Nolting, H.-P. see Bornholdt, C.
Krowne, C.M., and Neidert, R.E. see Neidert, R.E.
Krummenacher, F., Robert, J., Temes, G.C., Valencic, V., and Deval, P. see Robert, J.
Krumpholz, O., Arnold, G., Gottsmann, H., Schlosser, E., and Schurr, E.-A. see Arnold, G.
Krumpholz, O., and Arnold, G. see Arnold, G.
Kull, M., Salour, M.M., Schoner, G., and Bechtel, J.H. see Salour, M.M.
Kumagami, H., Koshiba, M., and Suzuki, M. see Koshiba, M.
Kung, H., Welch, D.F., Scifres, D., Cross, P., Streifer, W., Burnham, R.D., and Yaeli, J. see Welch, D.F.
Kuno, M., Wada, O., Sanada, T., and Fujii, T. see Wada, O.
Kuo, C.-Y., and Dixon, M. Optical spectra and the system performance of 1·55 μm DFB lasers p1225
Kuriyama, Y., Asano, T., and Ishiwara, H. see Asano, T.
Kurkjian, C.R., and Krause, J.T. see Krause, J.T.
Kurumada, K., Yoshikuni, Y., Motosugi, G., and Ikegami, T. see Yoshikuni, Y.
Kushibiki, J., Yamanaka, K., and Chubachi, N. see Yamanaka, K.
Kushiro, Y., Noda, Y., Suzuki, M., and Akiba, S. see Noda, Y.
Kusunoki, T., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Tabuchi, H., Ishikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Kuwabara, T., Koga, H., and Mitsunaga, Y. see Koga, H.
Kuwaki, N., Ohashi, M., Tanaka, C., and Uesugi, N. Dispersion-shifted convex-index single-mode fibres p1186
Kwa, P. Homogeneous gyrator-chain networks p1080
Kyuma, K., Tai, S., and Nakayama, T. see Tai, S.
Kyung, C.M. Two-dimensional impurity profiling near the mask edge using anodisation p587

L

L'Haridon, H., Favennec, P.N., Salvi, M., and Razeghi, M. Shallow p^+ layers in $In_{0.53}Ga_{0.47}As$ by Hg implantation p122
L'Haridon, H., Loualiche, S., Parguel, V., Henry, L., and Vaudry, C. see Loualiche, S.
Labrèche, A., Beauséjour, A., Castonguay, M., and Cheeke, J.D.N. Scanning acoustic microscopy using PVDF concave lenses p990
Lackas, W., Appelhans, G., and Lampe, G. see Appelhans, G.
Lam, Y.W., and Hoi, C.S. see Hoi, C.S.
Lamkemeyer, M., Brockherde, W., Hosticka, B.J., and Richert, P. Switched-capacitor noise-shaping coders of higher order for A/D conversion p1039
Lamouler, P., Durteste, Y., and Monerie, M. see Durteste, Y.
Lampe, G., Appelhans, G., and Lackas, W. see Appelhans, G.
Lan, G.-L., and Sengupta, D.L. Tunable circular patch antennas p1022
Landsberg, P.T., and Abrahams, M.S. Tunnel diode theory p59
Lang, R., Kato, Y., Yanase, T., Kitamura, M., Nishi, K., Yamaguchi, M., Nishimoto, H., and Mito, I. see Kato, Y.
Lang, R., Salzman, J., and Yariv, A. see Salzman, J.
Langford, N., Smith, K., and Sibbett, W. see Smith, K.
Langmann, U., and Steinbach, G. see Steinbach, G.
Lanzisera, V., Su, C.B., Olshansky, R., Powazinik, W., Meland, E., Schlafer, J., and Lauer, R.B. see Su, C.B.
Lanzisera, V., Su, C.B., and Olshansky, R. see Su, C.B.
Lapierre, J., Black, R.J., Veilleux, C., and Bures, J. see Black, R.J.
Larner, D.S. Effects of dispersion in a 565 Mbit/s optical fibre laboratory system p187

Larner, D.S., and Bhagavatula, V.A. Dispersion reduction in single-mode-fibre links p1171
Lauer, R., Olshansky, R., Fye, D., Manning, J., Stern, M., Meland, E., Powazinik, W., and Ulbricht, L. see Olshansky, R.
Lauer, R.B., Schlafer, J., Su, C.B., and Powazinik, W. see Schlafer, J.
Lauer, R.B., Su, C.B., Lanzisera, V., Olshansky, R., Powazinik, W., Meland, E., and Schlafer, J. see Su, C.B.
Lauer, R.B., Ulbricht, L.W., Teare, M.J., and Olshansky, R. see Ulbricht, L.W.
Law, C.L., and Aitchison, C.S. 2–18 GHz distributed amplifier in hybrid form p684
Le Guen, D., and Favre, F. see Favre, F.
Leach, A.P., Hartog, A.H., and Gold, M.P. see Hartog, A.H.
Leblanc, H.P., Gimlett, J.L., Stern, M., Vodhanel, R.S., Cheung, N.K., Chang, G.K., Shumate, P.W., and Suzuki, A. see Gimlett, J.L.
Leboyer, A., and Gorgui-Naguib, R.N. see Gorgui-Naguib, R.N.
Leclerc, E., Bernard, J.J., Chalot, S., Mouchart, J., Doll, A., and Coeurjolly, C. see Bernard, J.J.
Lecocq, J., van Ginderdeuren, J., van Paepegem, L., Govaerts, R., Catthoor, F., Vandebroek, P., Slock, S., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.
Lecrosnier, D., Dumas, J.M., Paugam, J., and Vuchener, C. see Dumas, J.M.
Ledee, R., Chive, M., and Plancot, M. Microstrip microslot antennas for biomedical applications: Frequency analysis of different parameters of this type of applicator p304
Lee, M.H., and Park, S.B. New continuous dynamic focusing technique in ultrasound imaging p749
Lee, T.P., Burrus, C.A., and Wilt, D.P. Measured spectral linewidth of variable-gap cleaved-coupled-cavity lasers p53
Lee, T.P., Menocal, S.G., and Matsumura, H. Characteristics of linewidth narrowing of a 1·5 μm DFB laser with a short GRIN-rod external coupled cavity p655
Lee, T.P., and Menocal, S.G. Measured dynamic linewidth properties of a 1·5 μm DFB-GRIN-rod coupled-cavity laser under direct high-frequency modulation p1046
Lemaire, P.J., and Tomita, A. see Tomita, A.
Lenahan, T.A., Shang, H.-T., Glodis, P.F., and Kalish, D. see Shang, H.-T.
Lenton, C.G.D., Nelson, A.W., Devlin, W.J., Hobbs, R.E., and Wong, S. see Nelson, A.W.
Lepschy, A., Mian, G.A., and Viaro, U. Approximation errors in the computation of Chebyshev expansion coefficients p414
Levine, B.F., Bethea, C.G., Cohen, L.G., Campbell, J.C., and Morris, G.D. Optical time domain reflectometer using a photon-counting InGaAs/InP avalanche photodiode at 1·3 μm p83
Levine, B.F., Bethea, C.G., and Campbell, J.C. 1·52 μm room-temperature photon-counting optical time domain reflectometer p194
Levine, E., Ashkenazy, J., and Treves, D. see Ashkenazy, J.
Lewis, C.R., and Green, R.T. Two-junction cascade solar cell incorporating a high-conductance, MOCVD-grown interconnecting junction p1111
Lewis, E.O., Haykin, S., and Currie, B.W. Detection of sea-ice features using K_a-band radar p499
Lewis, M.F. Practical frequency source for use in agile radars p1017
Lewis, M.F. Surface-acoustic-wave frequency-domain limiter p573
Lewis, M.F., and West, C.L. Use of acoustic transducers as generalised electrical circuit elements p1211
Li Kam Wa, P., Sitch, J.E., Mason, N.J., Roberts, J.S., and Robson, P.N. All optical multiple-quantum-well waveguide switch p26
Li, K.C., Su, L.M., Schroeter-Janssen, H., and Grote, N. see Su, L.M.
Li, S.W., and Bourkoff, E. Polarisation effects in SAW acousto-optic interactions p968
Liao, S.A., Chang, C.Y., Wang, Y.H., and Liu, W.C. see Chang, C.Y.
Lidgey, F.J., and Toumazou, C. see Toumazou, C.
Lier, E., and Aas, J.A. Simple hybrid mode horn feed loaded with a dielectric cone p563
Lievin, J.L., and Alexandre, F. Ultra-high doping levels of GaAs with beryllium by molecular beam epitaxy p413
Lin, C., Andersen, J.K., and Mengel, F. Frequency chirp reduction in a 2·2 Gbit/s directly modulated InGaAsP semiconductor laser by CW injection p80
Lin, C., and Bowers, J.E. High-speed large-signal digital modulation of a 1·3 μm InGaAsP constricted mesa laser at a simulated bit rate of 16 Gbit/s p906 e632
Lin, C., and Bowers, J.E. Measurement of 1·3 and 1·55 μm gain-switched semiconductor laser pulses with a picosecond IR streak camera and a high-speed InGaAs PIN photodiode p1200
Lin, Chinlon, and Koch, T.L. Chirping in 1·55 μm vapour-phase-transport distributed feedback (VPTDFB) semiconductor lasers under picosecond gain switching and 4 GHz modulation p958
Lin, S.H., Wang, S.Y., Newton, S.A., and Houng, Y.M. Low-loss GaAs/GaAlAs strip-loaded waveguides with high coupling efficiency to single-mode fibres p597
Lindsey, C., Derry, P., and Yariv, A. Tailored-gain broad-area semiconductor laser with single-lobed diffraction-limited far-field pattern p671
Linke, R.A., Eisenstein, G., Jopson, R.M., Burrus, C.A., Koren, U., Whalen, M.S., and Hall, K.L. see Eisenstein, G.
Liou, K.-Y., Jhee, Y.K., Burrus, C.A., Hall, K.L., and Anthony, P.J. Narrow-linewidth fibre-external-cavity injection lasers p933
Liou, K.-Y., Jhee, Y.K., Burrus, C.A., and Hall, K.L. see Jhee, Y.K.
Liou, K.-Y., and Burrus, C.A. Spectral linewidth of a GRECC laser with added external cavity p353
Lipka, D., and Meckelburg, H.-J. see Meckelburg, H.-J.
Lissberger, P.H., Roy, A.K., and McCartney, D.J. Narrowband position-tuned multilayer interference filter for use in single-mode-fibre systems p798
Liu, J.M., and Chen, Y.C. Optical flip-flop p236
Liu, W.C., Chang, C.Y., Wang, Y.H., and Liao, S.A. see Chang, C.Y.
Llewellyn, J.P., Birch, J.R., and Bentley, C.A. see Birch, J.R.
Lo, K.W., and Vu, T.B. see Vu, T.B.
Lobbett, R.A., Heatley, D.J.T., White, T.K., Farthing, A.J., Gilbert, K.I., Stallard, W.A., and Beaumont, A.R. see Heatley, D.J.T.
Lobbett, R.A., Hill, G.R., and Stallard, W.A. see Hill, G.R.
Logan, R.A., Antreasyan, A., and Chen, C.J. see Antreasyan, A.
Logan, R.A., Dutta, N.K., Wessel, T., Olsson, N.A., Yen, R., and Anthony, P.J. see Dutta, N.K.
Logan, R.A., Olsson, N.A., Hegarty, J., Johnson, L.F., Walker, K.L., Cohen, L.G., Kasper, B.L., and Campbell, J.C. see Olsson, N.A.
Logan, R.A., van der Ziel, J.P., and Mikulyak, R.M. see van der Ziel, J.P.
Lombardi, F. Algorithms for fault identification in a diagnosable multiprocessor system p405
Lombardi, F. Fault detection and identification for reliable large-scale computing p50
Long, J., Campbell, J.C., Dentai, A.G., Qua, G.J., and Riggs, V.G. see Campbell, J.C.
Long, N.R.W. Correcting phased arrays for multipath or for conformal topography p639
Long, N.R.W., Griffiths, H.D., and Schoenenberger, J.G. see Griffiths, H.D.
Long, S.A., Davidson, S.E., and Richards, W.F. see Davidson, S.E.
Lopes, L.B. Synthesis of bandlimited signals with independent amplitude and phase modulation p1
Lorenzo, J.P., and Soref, R.A. see Soref, R.A.
Loualiche, S., Parguel, V., L'Haridon, H., Henry, L., and Vaudry, C. InGaAs photoconductor failure observation p1101
Love, J.D., and Hall, M. Polarisation modulation in long couplers p519
Lowe, R.S., and Saravanos, C. see Saravanos, C.
Lucas, T.N. Model reduction by condensed continued-fraction method p680
Luise, M. Easy calculation of power spectra for multi-h phase-coded signals p608 e661

M

Maas, S.A. 45 GHz active HEMT mixer p104
Macksey, H.M., and Hudgens, R.D. Fabrication of n^+ ledge channel structure for GaAs FETs with a single lithography step p955
Maclean, D., White, I.H., Carroll, J.E., and Plumb, R.G. Delay-triggered optical switching in twin-stripe IRW lasers p999
Maddox, R.L., and Golecki, I. Enhanced performance of 2 μm N-MOSFETs in doubly recrystallised SOS films p154 d1002
Maeda, M., Imoto, K., and Ikuta, Y. see Imoto, K.
Maeda, M., Yamashita, K., Kinoshita, T., Takasaki, Y., Kaji, T., and Maeda, N. see Yamashita, K.
Maeda, N., Yamashita, K., Kinoshita, T., Takasaki, Y., Maeda, M., and Kaji, T. see Yamashita, K.
Maes, W., De Meyer, K., and Dupas, L. Parameter extraction on MOSFET transistors using a new optimised fit strategy p490
Mahdjoubi, K., Jeddari, L., Terret, C., and Daniel, J.P. see Jeddari, L.
Mahdjoubi, K., and Terret, C. Exact expression for stored energies in the cavity volume of microstrip antennas p1221
Maheo, P., Henry, M., Thebault, C., and Vergos, J.C. see Henry, M.
Mallinson, S.R. Crosstalk limits of Fabry–Perot demultiplexers p759
Mallinson, S.R. Fibre-coupled Fabry–Perot wavelength demultiplexer p121
Maloberti, F., Haug, K., and Temes, G.C. see Haug, K.
Manning, J., Olshansky, R., Fye, D., Stern, M., Meland, E., Powazinik, W., Ulbricht, L., and Lauer, R. see Olshansky, R.
Manning, J., Olshansky, R., Fye, D.M., and Powazinik, W. Strong influence of nonlinear gain on spectral and dynamic characteristics of InGaAsP lasers p496
Manning, J., Olshansky, R., Fye, D.M., and Su, C.B. see Olshansky, R.
Mannoh, M., Yuasa, T., Asakawa, K., Shinozaki, K., and Ishii, M. Low-threshold MBE GaAs/AlGaAs quantum well lasers with dry-etched mirrors p769
Mantakas, C., Dagakis, K., and Zacharopoulos, V. Method for the generation of M-ary constant-envelope PSK signals p676
Maras, A.M., Davidson, H.D., and Holt, A.G.J. Diversity improvement for M-ary noncoherent frequency shift keying in impulsive reverberation noise p944
Marchetti, P.G., Merlo, U., and Fionda, E. see Merlo, U.
Marclay, E., Guéret, P., and Kaufmann, U. see Guéret, P.
Marcuse, D. Directional-coupler filter using dissimilar optical fibres p726
Maricot, S., Verriele, H., Constant, M., Ramdani, J., and Decoster, D. see Verriele, H.
Mark, J., Bødtker, E., and Tromborg, B. Measurement of Rayleigh backscatter-induced linewidth reduction p1008
Mark, J., Bødtker, E., and Tromborg, B. Statistical characteristics of a laser diode exposed to Rayleigh backscatter from a single-mode fibre p1010
Marrone, M.J. Polarisation holding in long-length polarising fibres p244
Marrone, M.J., and Davis, M.A. Low-temperature behaviour of high-birefringence fibres p703
Marsden, S., Holmes-Siedle, A., Adams, L., and Pauly, B. see Holmes-Siedle, A.
Marshall, I.W., O'Mahony, M.J., Devlin, W.J., and Regnault, J.C. see O'Mahony, M.J.
Marshall, W.K., and Katz, J. see Katz, J.
Martinelli, G., Orlandi, G., and Burrascano, P. Reduction of computational cost in DFT implementation of FIR digital filters p364
Martinez, F., and Hussey, C.D. see Hussey, C.D.
Marty, A., Cazarre, A., Tasselli, J., Bailbe, J.P., and Rey, G. see Cazarre, A.
Marwood, W., and Clarke, A.P. Three-dimensional systolic architecture for beamforming p212
Maskara, S.L., and Katakol, B.S. see Katakol, B.S.
Mason, N.J., Li Kam Wa, P., Sitch, J.E., Roberts, J.S., and Robson, P.N. see Li Kam Wa, P.
Masselink, W.T., Ketterson, A., Klem, J., Kopp, W., and Morkoç, H. Cryogenic operation of pseudomorphic AlGaAs/InGaAs single-quantum-well MODFETs p937
Masuda, K., Sakai, S., Kohda, S., and Minagawa, C. see Sakai, S.
Matkey, K., Meckelburg, H.-J., and Kampmann, M. Sensitivity improvement in digital microwave signal analysis p362
Matsuda, K., Fujita, T., Ohya, J., Ishino, M., Sato, H., and Serizawa, H. see Fujita, T.
Matsumoto, H., and Watanabe, K. Improved switched-capacitor algorithmic analogue-to-digital convertor p430
Matsumoto, K., Ogura, M., Wada, T., Yao, T., Hayashi, Y., Hashizume, N., Kato, M., Endo, T., and Inage, H. p-channel GaAs SIS (semiconductor-insulator-semiconductor) FET p580
Matsumoto, T., Katsuyama, Y., Hatano, S., Hogari, K., and Kokubun, T. see Katsuyama, Y.
Matsumoto, T., Usui, A., Inai, M., Mito, I., Kobayashi, K., and Watanabe, H. see Usui, A.
Matsumura, H., Lee, T.P., and Menocal, S.G. see Lee, T.P.
Matsumura, M., Okada, H., Uchida, Y., and Watanabe, Y. see Okada, H.
Matsumura, M., Takahashi, T., Sugiura, O., and Watanabe, I. see Takahashi, T.
Matsunaga, T., and Ikeda, M. Experimental application of LD switch modules to 256 Mbit/s optical time switching p945
Matsuoka, T., Yoshikuni, Y., and Motosugi, G. Dependence of single-longitudinal-mode probability on DFB laser facet structure p1151
Matsushima, Y., Utaka, K., Akiba, S., and Sakai, K. see Utaka, K.
Matthews, M.R., Cameron, K.H., Wyatt, R., and Devlin, W.J. Packaged frequency-stable tunable 20 kHz linewidth 1·5 μm InGaAsP external cavity laser transmission systems p113
Matthews, P.A. Capacity of wideband TDMA digital mobile radio cellular schemes p1189
Mattoso Maia, M., and Fairhurst, M.C. see Fairhurst, M.C.
Mavor, J. Exact design of highpass switched-capacitor filters of the LDI type d643
Mavor, J., and Taylor, J.T. see Taylor, J.T.
Mawira, A. Variability of worst-month quotient Q p1073
Mawst, L.J., Costrini, G., Zmudzinski, C.A., Givens, M.E., Emanuel, M.A., and Coleman, J.J. Complementary self-aligned laser by metalorganic chemical vapour deposition p903
Maze, G., Monerie, M., and Alard, F. see Monerie, M.
McAndrew, P., and Ege, T. see Ege, T.
McCartney, D.J., Lissberger, P.H., and Roy, A.K. see Lissberger, P.H.
McCoy, R.J., Bowers, J.E., and Burrus, C.A. see Bowers, J.E.
McEwan, N.J., and Bashir, S.O. see Bashir, S.O.
McEwan, N.J., and Poiares Baptista, J.P.V. see

Poiares Baptista, J.P.V.
McGillivray, I., Robertson, J.M., and Walton, A.J. Postmetallisation annealing of aluminium-silicon gate MOS capacitors p973
McGlashan-Powell, M., Hegarty, J., and Olsson, N.A. see Hegarty, J.
McGrath, D.S., and Myers, D.J. Novel MOS memory for serial signal processing applications p1170
McInerney, J., Reekie, L., and Bradley, D.J. Bandwidth-limited picosecond pulse generation by hybrid mode-locking in a ring cavity GaAlAs laser p117
McMillan, J.L., and Robertson, S.C. Characterisation of single-mode optical fibres by measurement of equalisation wavelength p295
McNamara, D.A. Optimum monopulse linear array excitations using Zolotarev polynomials p681
Mears, R.J., Reekie, L., Poole, S.B., and Payne, D.N. Neodymium-doped silica single-mode fibre lasers p738
Meckelburg, H.-J., Matkey, K., and Kampmann, M. see Matkey, K.
Meckelburg, H.-J., and Lipka, D. Fast Hartley transform algorithm p341
Meguro, T., Yamanouchi, K., Takeuchi, M., and Wagatsuma, Y. see Yamanouchi, K.
Meguro, T., Yamanouchi, K., and Chen, Z.H. see Yamanouchi, K.
Meland, E., Olshansky, R., Fye, D., Manning, J., Stern, M., Powazinik, W., Ulbricht, L., and Lauer, R. see Olshansky, R.
Meland, E., Su, C.B., Lanzisera, V., Olshansky, R., Powazinik, W., Schlafer, J., and Lauer, R.B. see Su, C.B.
Melchior, H., and Hong, Z. see Hong, Z.
Melchoir, H., and Hong, Z. see Hong, Z.
Melman, P., Carlsen, W.J., and Foley, B. Tunable birefringent wavelength-division multiplexer/demultiplexer p634
Melman, P., Eichen, E., and Nelson, W.H. see Eichen, E.
Mendis, F.V.C., Tjhung, T.T., Teo, S.K., and Selvan, B. see Tjhung, T.T.
Mendis, F.V.C., Tjhung, T.T., and Selvan, B. see Tjhung, T.T.
Mengel, F., Lin, C., and Andersen, J.K. see Lin, C.
Menocal, S.G., Lee, T.P., and Matsumura, H. see Lee, T.P.
Menocal, S.G., and Lee, T.P. see Lee, T.P.
Merlo, U., Fionda, E., and Marchetti, P.G. Amplitude scintillation cycles in a SIRIO satellite–earth link p1094
Mermelstein, M.D. Fundamental limit to the performance of fibre-optic metallic glass DC magnetometers p1178
Merz, J.L., Wu, X.S., and Coldren, L.A. see Wu, X.S.
Meyer, K.E., and Mourou, G.A. Two-dimensional *E*-field mapping with subpicosecond temporal resolution p568
Mian, G.A., Lepschy, A., and Viaro, U. see Lepschy, A.
Miessler, M. Effect of video amplifier rise time and CRT gamma on performance of a high-resolution monitor p777
Miguel, J.M. New positive-impedance convertor suitable for high-frequency application p402
Mikami, O., Hirota, Y., Okamura, M., and Hisaki, T. see Hirota, Y.
Mikami, O., Hirota, Y., and Hisaki, T. see Hirota, Y.
Mikami, O., Uwai, K., and Susa, N. see Uwai, K.
Mikami, O., and Hirota, Y. see Hirota, Y.
Mikulyak, R.M., van der Ziel, J.P., and Logan, R.A. see van der Ziel, J.P.
Miller, D.A.B., Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Chemla, D.S., Damen, T.C., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Miller, D.L., Wang, K.C., Asbeck, P.M., and Eisen, F.H. see Wang, K.C.
Miller, W.C., Bayoumi, M.A., and Jullien, G.A. see Bayoumi, M.A.
Millman, M., Jayadev, T.S., Okazaki, E., and Petersen, H. see Jayadev, T.S.
Mills, P., and Paige, E.G.S. Holographically formed, highly selective, infra-red filter in iron-doped lithium niobate p885
Mills, P., and Plastow, R. Single-mode operation of 1·55 μm semiconductor lasers using a volume holographic grating p648
Mimura, Y., Nakai, T., Tokiwa, H., and Shinbori, O. see Nakai, T.
Mimura, Y., Tokiwa, H., Nakai, T., and Shinbori, O. see Tokiwa, H.
Minagawa, C., Sakai, S., Kohda, S., and Masuda, K. see Sakai, S.
Minemura, K., Aoki, Y., Kishida, S., and Washio, K. see Aoki, Y.
Minemura, K., Emura, K., Shikada, M., Yamazaki, S., Komatsu, K., and Mito, I. see Emura, K.
Minghuang Hong, J., Werner, M.J., Wu, Yao-Hwa, and Wang, Shyh Molecular-beam-epitaxy-grown single-longitudinal-mode GaAs-AlGaAs interferometric lasers on stepped-channelled substrates p1138
Minneci, G., Saul, R.H., King, W.C., Olsson, N.A., Zipfel, C.L., Chin, B.H., Chin, A.K., and Camlibel, I. see Saul, R.H.
Minowa, J., and Fujii, Y. Wide-bandwidth, sharp-cutoff bandpass filter for WDM transmission p915
Mircea, A., Rose, B., Devoldere, P., Robein, D., and Trotte, M. see Rose, B.
Mishra, U.K., Palmateer, S.C., Nightingale, S.J., Upton, M.A.G., and Smith, P.M. Surface-oriented low-parasitic Mott diode for EHF mixer applications p652
Mito, I., Emura, K., Shikada, M., Yamazaki, S., Komatsu, K., and Minemura, K. see Emura, K.
Mito, I., Kato, Y., Yanase, T., Kitamura, M., Nishi, K., Yamaguchi, M., Nishimoto, H., and Lang, R. see Kato, Y.
Mito, I., Sugou. S., Nishimoto, H., Kitamura, M., and Yanase, T. see Sugou, S.
Mito, I., Usui, A., Matsumoto, T., Inai, M., Kobayashi, K., and Watanabe, H. see Usui, A.
Mito, I., Yamaguchi, M., Kitamura, M., Murata, S., and Kobayashi, K. see Yamaguchi, M.
Mito, I., Yamazaki, S., Emura, K., Shikada, M., and Yamaguchi, M. see Yamazaki, S.
Mitomi, O., Kawano, K., and Miyazawa, H. see Kawano, K.
Mitsunaga, Y., Abe, T., and Koga, H. see Abe, T.
Mitsunaga, Y., Koga, H., and Kuwabara, T. see Koga, H.
Miyagi, H., Kimura, T., Shimizu, H., and Noda, K. see Kimura, T.
Miyagi, M., Nii, K., and Nishida, S. Uniform bend loss of the TE_{0_9} mode in circular waveguides with small surface impedance and large surface admittance p1009
Miyazawa, H., Kawano, K., and Mitomi, O. see Kawano, K.
Miyazawa, H., Okamoto, K., Noda, J., and Saruwatari, M. see Okamoto, K.
Miyazawa, H., Okamoto, K., and Noda, J. see Okamoto, K.
Mizutani, T., Arai, K., Oe, K., Fujita, S., and Yanagawa, F. n^+ self-aligned-gate AlGaAs/GaAs heterostructure FET p638
Mizutani, T., Fujita, S., and Yanagawa, F. Complementary circuit with AlGaAs/GaAs heterostructure MISFETs employing high-mobility two-dimensional electron and hole gases p1116
Mjakov, V.N., Abramov, A.A., Borkina, G.Yu., Bubnov, M.M., Dianov, E.M., and Guryanov, A.N. see Abramov, A.A.
Mochizuki, K., Fujise, M., Suzuki, H., Watanabe, M., Koishi, M., and Tsuchiya, T. Direct measurement of chromatic dispersion in single-mode fibres using streak camera p524
Mogensen, F., Hodgkinson, T.G., and Smith, D.W. FSK heterodyne system experiments at 1·5 μm using a DFB laser transmitter p518
Mogensen, F., Olesen, H., and Jacobsen, G. FM noise suppression and linewidth reduction in an injection-locked semiconductor laser p696
Mogensen, F., Saito, S., and Olesen, H. see Saito, S.
Mohan, S.B., and Adiga, B.S. Fast algorithms for implementing RSA public key cryptosystem p761
Monerie, M., Alard, F., and Maze, G. Fabrication and characterisation of fluoride-glass single-mode fibres p1179
Monerie, M., Durteste, Y., and Lamouler, P. see Durteste, Y.
Mongia, R.K., and Bhat, B. Accurate resonant frequencies of cylindrical dielectric resonators using a simple analytical technique p479
Mongiardo, M., Bardati, F., and Solimini, D. see Bardati, F.
Monham, K.L., Plastow, R., Carter, A.C., Ritter, J.E., Croft, T.D., and Gibson, M. see Plastow, R.
Monham, K.L., Plastow, R., Carter, A.C., and Goodfellow, R.C. 1·3 Gbit/s transmission over 107 km of dispersion-shifted monomode fibre using a 1·55 μm multimode laser p619
Montecchi, F. Lowpass to highpass transformation in VIS switched-capacitor filters p146
Montgomery, C.M., Girling, I.R., Cade, N.A., and Kolinsky, P.V. see Girling, I.R.
Moore, B., Walton, A.J., Robertson, J.M., and Holwill, R. see Walton, A.J.
Moore, M.B., Walton, A.J., Robertson, J.M., and Holwill, R. see Walton, A.J.
Moore, M.W., France, P.W., Carter, S.F., and Williams, J.R. see France, P.W.
Moore, W.R. Switching circuits for yield enhancement of an array chip e124
Mori, S., and Horio, Y. see Horio, Y.
Mori, Y., Shibata, J., Sasai, Y., Hase, N., Serizawa, H., and Kajiwara, T. see Shibata, J.
Mori, Y., Takakuwa, H., Kato, Y., and Watanabe, S. see Takakuwa, H.
Moriki, K., Chailertvanitkul, A., and Iga, K. see Chailertvanitkul, A.
Morisaki, M., Ogura, M., Hase, N., and Kajiwara, T. InGaAsP/InP multiquantum-well structure grown by MOCVD p164
Morkoç, H., Masselink, W.T., Ketterson, A., Klem, J., and Kopp, W. see Masselink, W.T.
Morkoç, H., and Chand, N. see Chand, N.
Morris, G.D., Levine, B.F., Bethea, C.G., Cohen, L.G., and Campbell, J.C. see Levine, B.F.
Morrison, C., Figueroa, L., Zinkiewicz, Z., and Niesen, J. see Figueroa, L.
Morrison, C.B., Zinkiewicz, L.M., Burghard, A., and Figueroa, L. Improved high-power twin-channel laser with blocking layer p337
Morrison, C.B., Zinkiewicz, L.M., Niesen, J., and Figueroa, L. High-power superluminescent diode with reduced coherence length p840
Mortimore, D.B. Low-loss 8 × 8 single-mode star coupler p502
Mortimore, D.B. Wavelength-flattened fused couplers p742
Moschytz, G.S., and Mulawka, J.J. see Mulawka, J.J.
Moseley, A.J., Humphreys, D.A., King, R.J., and Jenkins, D. see Humphreys, D.A.
Moseley, A.J., Sussmann, R.S., Ash, R.M., and Goodfellow, R.C. see Sussmann, R.S.
Moss, J.P., Hall, R.D., and Betts, R.A. see Hall, R.D.
Moss, R.H., Nelson, A.W., Regnault, J.C., Spurdens, P.C., and Wong, S. see Nelson, A.W.
Motosugi, G., Matsuoka, T., and Yoshikuni, Y. see Matsuoka, T.
Motosugi, G., Yoshikuni, Y., Kurumada, K., and Ikegami, T. see Yoshikuni, Y.
Motosugi, G., Yoshikuni, Y., and Ikegami, T. Single-longitudinal-mode condition for DFB lasers p352
Mouchart, J., Bernard, J.J., Chalot, S., Doll, A., Coeurjolly, C., and Leclerc, E. see Bernard, J.J.
Moulsley, T.J., and Vilar, E. see Vilar, E.
Moulu, J., and Wilbrod, J.H. see Wilbrod, J.H.
Mouly, J.C., Neirynck, J., and Tarpin, F. RC-active biquad design by a Prolog program p708
Mourey, M., and Vaterkowski, J.L. New design of a dual-mode quartz crystal oscillator p184
Mourou, G.A., and Meyer, K.E. see Meyer, K.E.
Mu, T.C., Ogawa, H., and Itoh, T. Characteristics of coupled slow-wave microstrip lines p946
Mulawka, J.J., and Moschytz, G.S. Method of simplified analysis of switched-capacitor networks p138
Murakami, T., Enomoto, Y., Ohishi, Y., and Takahashi, S. see Enomoto, Y.
Murata, S., Yamaguchi, M., Kitamura, M., Mito, I., and Kobayashi, K. see Yamaguchi, M.
Murrell, D.L., Nelson, A.W., Wong, S., Regnault, J.C., Hobbs, R.E., and Walling, R.H. see Nelson, A.W.
Muto, S., Imamura, K., Yokoyama, N., Hiyamizu, S., and Nishi, H. Subpicosecond base transit time observed in a hot-electron transistor (HET) p555
Myers, D.J., and McGrath, D.S. see McGrath, D.S.

N

Nagai, H., Saito, H., and Noguchi, Y. see Saito, H.
Nagano, K., Tamura, A., Sakashita, T., Uenoyama, T., Nishii, K., Tambo, T., and Onuma, T. see Tamura, A.
Nagaraj, K., Singhal, K., Viswanathan, T.R., and Vlach, J. Reduction of finite-gain effect in switched-capacitor filters p644
Nagaraj, K., and Singhal, K. Variable-length shift register p452
Nakagami, T., Horimatsu, T., Iwama, T., Oikawa, Y., Touge, T., and Wada, O. see Horimatsu, T.
Nakagawa, T., Imamoto, H., Sakamoto, T., Kojima, T., Ohta, K., and Kawai, N.J. Observation of negative differential resistance in CHIRP superlattices p882
Nakahara, M., Itoh, H., and Ohmori, Y. see Itoh, H.
Nakahara, M., Shibata, S., and Hanawa, F. see Shibata, S.
Nakahara, M., Shimizu, M., and Ohmori, Y. see Shimizu, M.
Nakahara, M., Suda, H., and Shibata, S. see Suda, H.
Nakai, T., Mimura, Y., Tokiwa, H., and Shinbori, O. Reduction of absorption loss due to iron ions in fluoride glasses p625
Nakai, T., Tokiwa, H., Mimura, Y., and Shinbori, O. see Tokiwa, H.
Nakajima, H., Gallion, P., Debarge, G., and Chabran, C. see Gallion, P.
Nakamura, M., Kaito, K., and Ozeki, T. Modal noise reduced PFM transmission by monopulse to twin-pulse conversion p307
Nakamura, M., Nitta, K., Komatsubara, T., Kinoshita, H., Iizuka, Y., and Beppu, T. see Nitta, K.
Nakanisi, T., Ishikawa, M., Ohba, Y., Sugawara, H., and Yamamoto, M. see Ishikawa, M.
Nakano, H., Tagami, H., and Yamauchi, J. Numerical analysis of an axial-mode zigzag antenna p606
Nakano, H., and Hotate, K. Optical system for real-time processing of multiple matrix product p435
Nakano, K., Berenz, J., Hsu, Ting-Ih, and Goel, J. see Berenz, J.
Nakano, K., Berenz, J., Sato, T., and Fawcett, K. see Berenz, J.
Nakano, Y., Fujita, O., and Iwane, G. see Fujita, O.
Nakashima, S., Kanamori, S., and Izumi, K. Temperature measurement technique using Pt diffusion into Au for ion-implanting wafers mounted on a spinning disc p1229
Nakashima, T., Shibata, N., Ohashi, M., and Seikai, S. Evaluation of axial fibre strain based on the stimulated four-photon mixing process p935
Nakayama, T., Tai, S., and Kyuma, K. see Tai, S.
Napholtz, S.G., Dutta, N.K., Cella, T., and Craft, D.C. see Dutta, N.K.
Narozny, P., and Beneking, H. Double heterojunction GaAs/GaAlAs I^2L inverter p328

Narozny, P., and Beneking, H. High-quality GaAs Schottky diodes fabricated by strained layer epitaxy p1050
Nash, R., and Wong, W.C. Simultaneous transmission of speech and data using an adaptive cancelling technique p784
Nauta, H.C., and Nordholt, E.H. New class of high-performance PTAT current sources p384 d1070
Nazoa-Ruiz, N., and Aitchison, C.S. Experimental gain and noise figure performance of distributed MESFET amplifiers p196
Neelakantaswamy, P.S., Turkman, R.I., and Sarkar, T.K. Complex permittivity of a dielectric mixture: corrected version of Lichtenecker's logarithmic law of mixing p270
Negishi, Y., Noguchi, K., Uesugi, N., Shibata, N., and Ishihara, K. see Noguchi, K.
Negishi, Y., Yoshizawa, N., Ohnishi, M., and Ishihara, K. see Yoshizawa, N.
Neidert, R.E., and Krowne, C.M. Voltage variable microwave phase shifter p636
Neirynck, J. Mouly, J.C., and Tarpin, F. see Mouly, J.C.
Nelson, A.W., Devlin, W.J., Hobbs, R.E., Lenton, C.G.D., and Wong, S. High-power, low-threshold BH lasers operating at 1·52 μm grown entirely by MOVPE p888
Nelson, A.W., Moss, R.H., Regnault, J.C., Spurdens, P.C., and Wong, S. Double heterostructure and multiquantum-well lasers at 1·5–1·7 μm grown by atmospheric pressure MOVPE p329
Nelson, A.W., Wong, S., Regnault, J.C., Hobbs, R.E., Murrell, D.L., and Walling, R.H. High-performance DC-PBH lasers at 1·52 μm by a hybrid MOVPE/LPE process p493
Nelson, A.W., Wong, S., Ritchie, S., and Sargood, S.K. GaInAs PIN photodiodes grown by atmospheric-pressure MOVPE p838
Nelson, B.P., Ainslie, B.J., and Cooper, D.M. Design and manufacture of fibres with specific dispersion properties p274
Nelson, P.A., and Elliott, S.J. see Elliott, S.J.
Nelson, W.H., Eichen, E., and Melman, P. see Eichen, E.
Nes, H. Meteor burst polarisation trials p1132
Newton, S.A., Lin, S.H., Wang, S.Y., and Houng, Y.M. see Lin, S.H.
Nguyen, D.T., and Guillemin, B.J. see Guillemin, B.J.
Nguyen, D.T., and Swamy, M.N.S. Scaling-free McClellan transform for 2-D digital filters p176
Nguyen, P.H., Easwarakhanthan, T., Bouhouch, L., and Bottin, J. see Easwarakhanthan, T.
Nicholls, S.T. Automatic manufacture of polished single-mode-fibre directional coupler p825
Niederjohn, R.J., and Heinen, J.A. see Heinen, J.A.
Niesen, J., Figueroa, L., Morrison, C., and Zinkiewicz, Z. see Figueroa, L.
Niesen, J., Morrison, C.B., Zinkiewicz, L.M., and Figueroa, L. see Morrison, C.B.
Niesen, J., Yang, J.J., Hong, C.S., and Figueroa, L. see Yang, J.J.
Nightingale, S.J., Mishra, U.K., Palmateer, S.C., Upton, M.A.G., and Smith, P.M. see Mishra, U.K.
Nii, K., Miyagi, M., and Nishida, S. see Miyagi, M.
Nijnuis, H.T., van Bochove, A.C., and Jacobs, J.F. see van Bochove, A.C.
Nishi, H., Imamura, K., Ohnishi, T., Shigaki, M., and Yokoyama, N. see Imamura, K.
Nishi, H., Muto, S., Imamura, K., Yokoyama, N., and Hiyamizu, S. see Muto, S.
Nishi, I., Oguchi, T., and Kato, K. Broad-passband-width optical filter for multi/demultiplexer using a diffraction grating and a retroreflector prism p423
Nishi, K., Kato, Y., Yanase, T., Kitamura, M., Yamaguchi, M., Nishimoto, H., Mito, I., and Lang, R. see Kato, Y.
Nishi, S., Kinoshita, H., Ishida, T., Akiyama, M., Inomata, H., Sano, Y., and Kaminishi, K. see Kinoshita, H.
Nishida, S., Miyagi, M., and Nii, K. see Miyagi, M.
Nishida, T., Ohta, N., and Yamada, J. see Ohta, N.
Nishihara, A., and Watanabe, E. see Watanabe, E.
Nishii, K., Tamura, A., Sakashita, T., Uenoyama, T., Tambo, T., Nagano, K., and Onuma, T. see Tamura, A.
Nishimoto, H., Kato, Y., Yanase, T., Kitamura, M., Nishi, K., Yamaguchi, M., Mito, I., and Lang, R. see Kato, Y.
Nishimoto, H., Sugou, S., Kitamura, M., Mito, I., and Yanase, T. see Sugou, S.
Nishimura, M., and Buckland, E.L. see Buckland, E.L.
Nishimura, M., and Hatton, W.H. see Hatton, W.H.
Nitta, K., Komatsubara, T., Kinoshita, H., Iizuka, Y., Nakamura, M., and Beppu, T. High-power and high-speed GaAlAs-GaAs LEDs fabricated by MOCVD growth p208
Nobuhara, H., Wada, O., and Fujii, T. GRIN-SCH SQW laser/photodiode array by improved microcleaved facet process p718
Noda, J., Hosaka, T., Sasaki, Y., and Horiguchi, M. see Hosaka, T.
Noda, J., Okamoto, K., Miyazawa, H., and Saruwatari, M. see Okamoto, K.
Noda, J., Okamoto, K., and Miyazawa, H. see Okamoto, K.
Noda, J., Sasaki, Y., and Hosaka, T. see Sasaki, Y.
Noda, J., Yokohama, I., and Okamoto, K. see Yokohama, I.
Noda, K., Kimura, T., Shimizu, H., and Miyagi, H. see Kimura, T.
Noda, Y., Suzuki, M., Kushiro, Y., and Akiba, S. 1·6 GHz electroabsorption light modulation in InGaAsP/InP double heterostructures with strip-loaded planar waveguide p1182
Noguchi, K., Uesugi, N., Shibata, N., Ishihara, K., and Negishi, Y. Photobleaching effect on visible-region loss increase for heat-treated optical fibres in a hydrogen atmosphere p438
Noguchi, Y., Saito, H., and Nagai, H. see Saito, H.
Nolting, H.-P., Bornholdt, C., and Krauser, J. see Bornholdt, C.
Nordholt, E.H., and Nauta, H.C. see Nauta, H.C.
Nosu, K., Imai, T., and Yamaguchi, H. see Imai, T.
Nosu, K., Inoue, K., and Toba, H. see Inoue, K.
Nosu, K., Toba, H., and Inoue, K. see Toba, H.
Nourshargh, N., Starr, E.M., Fox, N.I., and Jones, S.G. Simple technique for measuring attenuation of integrated optical waveguides p818

O

O'Mahony, M.J., Marshall, I.W., Devlin, W.J., and Regnault, J.C. Low-reflectivity semiconductor laser amplifier with 20 dB fibre-to-fibre gain at 1500 nm p501
O'Mahony, M.J., Westlake, H.J., and Adams, M.J. see Westlake, H.J.
O'Mahony, M.J., and Westlake, H.J. see Westlake, H.J.
O'Reilly, J.J. Further note on *m*B1C code spectra p918
Obregon, J., Jiao, X.H., and Guillon, P. see Jiao, X.H.
Oe, K., Mizutani, T., Arai, K., Fujita, S., and Yanagawa, F. see Mizutani, T.
Ogata, Y., and Yamamoto, Y. see Yamamoto, Y.
Ogawa, H., Mu, T.C., and Itoh, T. see Mu, T.C.
Ogose, S. Field test measurement for 920 MHz transmitter diversity p159
Oguchi, T., Fukuchi, H., and Awaka, J. see Fukuchi, H.
Oguchi, T., Nishi, I., and Kato, K. see Nishi, I.
Ogura, M., Matsumoto, K., Wada, T., Yao, T., Hayashi, Y., Hashizume, N., Kato, M., Endo, T., and Inage, H. see Matsumoto, K.
Ogura, M., Morisaki, M., Hase, N., and Kajiwara, T. see Morisaki, M.
Ohashi, M., Kuwaki, N., Tanaka, C., and Uesugi, N. see Kuwaki, N.
Ohashi, M., Nakashima, T., Shibata, N., and Seikai, S. see Nakashima, T.
Ohashi, M., Shibata, N., Tsubokawa, M., and Seikai, S. see Shibata, N.
Ohba, Y., Ishikawa, M., Sugawara, H., Yamamoto, M., and Nakanisi, T. see Ishikawa, M.
Ohira, T., Araki, K., Tanaka, T., and Kato, H. 14 GHz band GaAs monolithic analogue frequency divider p1057
Ohishi, Y., Enomoto, Y., Takahashi, S., and Murakami, T. see Enomoto, Y.
Ohmori, Y., Itoh, H., and Nakahara, M. see Itoh, H.
Ohmori, Y., Shimizu, M., and Nakahara, M. see Shimizu, M.
Ohnishi, M., Yoshizawa, N., Ishihara, K., and Negishi, Y. see Yoshizawa, N.
Ohnishi, T., Imamura, K., Shigaki, M., Yokoyama, N., and Nishi, H. see Imamura, K.
Ohno, H., Kitagawa, T., and Hasegawa, H. see Kitagawa, T.
Ohsawa, J., Hinata, S., Aoyagi, T., Kadowaki, T., Kaneno, N., Ikeda, K., and Susaki, W. Triple-stripe phase-locked diode lasers emitting 100 mW CW with single-lobed far-field patterns p779
Ohsawa, J., Kaneno, N., Kadowaki, T., Aoyagi, T., Hinata, S., Ikeda, K., and Susaki, W. see Kaneno, N.
Ohta, K., Nakagawa, T., Imamoto, H., Sakamoto, T., Kojima, T., and Kawai, N.J. see Nakagawa, T.
Ohta, N., Yamada, J., and Nishida, T. Automatic threshold-level control (ATC) for optimum decision operation in optical repeaters p1148
Ohwada, K., Akazawa, Y., Wakimoto, T., Kikuchi, H., Kawarada, K., and Kato, N. see Akazawa, Y.
Ohya, J., Fujita, T., Matsuda, K., Ishino, M., Sato, H., and Serizawa, H. see Fujita, T.
Oikawa, Y., Horimatsu, T., Iwama, T., Touge, T., Wada, O., and Nakagami, T. see Horimatsu, T.
Okada, H., Uchida, Y., Watanabe, Y., and Matsumura, M. Self-alignment a-Si FET by using a lift-off technique p633
Okamoto, K., Hosaka, T., and Sasaki, Y. see Hosaka, T.
Okamoto, K., Miyazawa, H., Noda, J., and Saruwatari, M. Novel optical isolator consisting of a YIG spherical lens and PANDA-fibre polarisers p36
Okamoto, K., Noda, J., and Miyazawa, H. Fibre-optic Solc filter for use in Raman amplification of light p90
Okamoto, K., Yokohama, I., and Noda, J. see Yokohama, I.
Okamura, M., Hirota, Y., Hisaki, T., and Mikami, O. see Hirota, Y.
Okazaki, E., Jayadev, T.S., Petersen, H., and Millman, M. see Jayadev, T.S.
Okoshi, T., Cheng, Y.H., and Kikuchi, K. New polarisation-control scheme for optical heterodyne receiver using two Faraday rotators p787
Okoshi, T., Fukaya, N., and Kikuchi, K. New polarisation-state control device: rotatable fibre cranks p895
Okoshi, T., Kikuchi, K., and Fukushima, T. see Kikuchi, K.
Okoshi, T., Kikuchi, K., and Hirose, A. see Kikuchi, K.
Okoshi, T., and Kikuchi, K. see Kikuchi, K.
Olcayto, E., and Zein El-Din, M. Quick stability test for 2-D digital filters p380
Olesen, H., Mogensen, F., and Jacobsen, G. see Mogensen, F.
Olesen, H., Saito, S., and Mogensen, F. see Saito, S.
Olivier, P., and Tiffon, J. Fast-fading characterisation in urban mobile propagation at 855 MHz in Paris p830
Olshansky, R., Fye, D., Manning, J., Stern, M., Meland, E., Powazinik, W., Ulbricht, L., and Lauer, R. High-power InGaAsP edge-emitting LEDs for single-mode optical communication systems p730
Olshansky, R., Fye, D.M., Manning, J., and Su, C.B. Effect of nonlinear gain on the bandwidth of semiconductor lasers p721
Olshansky, R., Manning, J., Fye, D.M., and Powazinik, W. see Manning, J.
Olshansky, R., Su, C.B., Lanzisera, V., Powazinik, W., Meland, E., Schlafer, J., and Lauer, R.B. see Su, C.B.
Olshansky, R., Su, C.B., and Lanzisera, V. see Su, C.B.
Olshansky, R., Ulbricht, L.W., Teare, M.J., and Lauer, R.B. see Ulbricht, L.W.
Olsson, N.A. ASK heterodyne receiver sensitivity measurements with two in-line 1·5 μm optical amplifiers p1085
Olsson, N.A., Dutta, N.K., Wessel, T., Logan, R.A., Yen, R., and Anthony, P.J. see Dutta, N.K.
Olsson, N.A., Hegarty, J., Logan, R.A., Johnson, L.F., Walker, K.L., Cohen, L.G., Kasper, B.L., and Campbell, J.C. 68·3 km transmission with 1·37 Tbit km/s capacity using wavelength division multiplexing of ten single-frequency lasers at 1·5 μm p105
Olsson, N.A., Hegarty, J., and Goldner, L. see Hegarty, J.
Olsson, N.A., Hegarty, J., and McGlashan-Powell, M. see Hegarty, J.
Olsson, N.A., Saul, R.H., King, W.C., Zipfel, C.L., Chin, B.H., Chin, A.K., Camlibel, I., and Minneci, G. see Saul, R.H.
Olver, A.D., Cory, H., and Parini, C.G. see Cory, H.
Ona, A., Hirose, Y., and Fukuda, T. see Hirose, Y.
Onuma, T., Tamura, A., Sakashita, T., Uenoyama, T., Nishii, K., Tambo, T., and Nagano, K. see Tamura, A.
Opalski, L.J., and Styblinski, M.A. Maximum income approach to yield optimisation p734
Orlandi, G., Martinelli, G., and Burrascano, P. see Martinelli, G.
Ormondroyd, R.F., Perkins, M.C., and Rozzi, T.E. see Perkins, M.C.
Orsini, M., Fedele, G., and Strappaveccia, S. see Fedele, G.
Orta, R., Tascone, R., and Zich, R. Scattering from finite extent frequency selective surfaces illuminated by arbitrary sources p100
Ortgies, G. Experimental parameters affecting amplitude scintillation measurements on satellite links p771
Ortgies, G. Probability density function of amplitude scintillations p141 d621 e632
Ortgies, G., and Rücker, F. Diurnal and seasonal variations of OTS amplitude scintillations p143
Osiński, M., Gallagher, D.F.G., and White, I.H. Measurement of linewidth broadening factor in gain-switched InGaAsP injection lasers by CHP method p981
Osiński, M., White, I.H., Gallagher, D.F.G., and Bowley, D. see White, I.H.
Ozeki, T., Nakamura, M., and Kaito, K. see Nakamura, M.

P

Paige, E.G.S., and Mills, P. see Mills, P.
Palanisamy, V., and Garg, R. Rectangular ring and H-shaped microstrip antennas—alternatives to rectangular patch antenna p874
Palmateer, S.C., Mishra, U.K., Nightingale, S.J., Upton, M.A.G., and Smith, P.M. see Mishra, U.K.
Panda, G., and Grant, P.M. Rectangular-transform-based adaptive filter p301
Paoli, T.L., DeFreez, R.K., Bernstein, M., and Burnham, R.D. see DeFreez, R.K.
Paoloni, F.J., and Cheah, J.Y.C. see Cheah, J.Y.C.
Paraskeva, M., Knight, W.L., and Burrows, D.F. New test structure for VLSI self-test: the structured test register (STR) p856
Parguel, V., Loualiche, S., L'Haridon, H., Henry, L., and Vaudry, C. see Loualiche, S.
Parini, C.G., Cory, H., and Olver, A.D. see Cory, H.
Park, S.B., and Lee, M.H. see Lee, M.H.
Parker, A.M., and Baden Fuller, A.J. see Baden Fuller, A.J.

Parker, D.G. Use of transparent indium tin oxide to form a highly efficient 20 GHz Schottky barrier photodiode p778
Parsons, J.D., and Williamson, A.G. see Williamson, A.G.
Paschalidou, V., and Aitchison, C.S. Theoretical analysis of the nonlinear behaviour of a loss-free distributed amplifier p108
Paugam, J., Dumas, J.M., Lecrosnier, D., and Vuchener, C. see Dumas, J.M.
Pauly, B., Holmes-Siedle, A., Adams, L., and Marsden, S. see Holmes-Siedle, A.
Pavlin, A., and Garrigues, M. see Garrigues, M.
Payne, D.N., Mears, R.J., Reekie, L., and Poole, S.B. see Mears, R.J.
Payne, D.N., Poole, S.B., and Fermann, M.E. see Poole, S.B.
Payne, D.N., Yataki, M.S., and Varnham, M.P. see Yataki, M.S.
Payne, F.P., Hussey, C.D., and Yataki, M.S. Modelling fused single-mode-fibre couplers p461
Payne, F.P., Hussey, C.D., and Yataki, M.S. Polarisation analysis of strongly fused and weakly fused tapered couplers p561
Pearson, D.E., Cazin, J., and Whybray, M. see Cazin, J.
Peckerar, M.C., and Christou, A. see Christou, A.
Pei, S.S., Shah, N.J., Tu, C.W., Hendel, R.H., and Tiberio, R.C. see Shah, N.J.
Pei, Soo-Chang, and Wu, Ja-Ling Determination of *P*-adic transform bases and lengths p431 d906
Pelgrom, M.J.M., Herrmann, J., van Gijn, H.P., and Vreeswijk, F.W.P. Compact noise-reduction system for quasistatic TV pictures p766
Peng, S., Colinge, J.P., and Hu, H.K. see Colinge, J.P.
Penna, T.C., Koren, U., and Tien, P.K. see Koren, U.
Pennock, J.L. CMOS triode transconductor for continuous-time active integrated filters p817
Perez, F., Ballesteros, E., and Perez, J. Linearisation of microwave power amplifiers using active feedback networks p9
Perez, J., Perez, F., and Ballesteros, E. see Perez, F.
Perillo, L., Cheng, W.H., Forouhar, S., Kim, O.K., Jiang, C.L., and Sheem, S.K. see Cheng, W.H.
Perkins, M.C., Ormondroyd, R.F., and Rozzi, T.E. Effect of photon lifetime on absorptive bistability in inhomogeneously pumped lasers p857
Perold, W.J. Calculation of maximum bulk electric field in high-voltage diodes with small and intermediate negative bevel angles p1191
Perold, W.J. Novel method for calculating maximum bulk electric field in high-voltage diodes with large negative bevel angles p576
Persechini, D.L., and Jackson, D.J. see Jackson, D.J.
Persson, A., Andersson, P.-O., Thylén, L., and Edwall, G. see Andersson, P.-O.
Petermann, K. Analysis of reduced chirping of semiconductor lasers for improved single-mode-fibre transmission capacity p1143
Petersen, H., Jayadev, T.S., Okazaki, E., and Millman, M. see Jayadev, T.S.
Petriu, E. Absolute-type pseudorandom shaft encoder with any desired resolution p215
Pham, T., Tahim, R.S., and Chang, K. see Tahim, R.S.
Philippe, P., Poulain, P., Razeghi, M., Kazmierski, K., and Blondeau, R. see Poulain, P.
Piacentini, M. Choice of PRF for error-tolerant range destaggering of radar targets p1128
Picardi, G., Barbarossa, S., and Capece, M. see Barbarossa, S.
Pierzina, R., and Freyer, J. High-power pulsed beam-lead impatt diodes for millimetre waves p913
Piontek, C., Arndt, F., Bornemann, J., and Schüler, H. see Arndt, F.
Pitt, C.W., and Betts, R.A. see Betts, R.A.
Pitt, G.D., and Byron, K.C. see Byron, K.C.
Plancot, M., Ledee, R., and Chive, M. see Ledee, R.
Plastow, R., Monham, K.L., Carter, A.C., Ritter, J.E., Croft, T.D., and Gibson, M. Transmission over 107 km of dispersion-shifted fibre at 16 Mbit/s using a 1·55 μm edge-emitting source p369
Plastow, R., Monham, K.L., Carter, A.C., and Goodfellow, R.C. see Monham, K.L.
Plastow, R., and Mills, P. see Mills, P.
Plessky, V.P., Gulyaev, Y.V., and Ten, Y.A. see Gulyaev, Y.V.
Ploog, K., Schubert, E.F., and Fischer, A. see Schubert, E.F.
Plumb, R.G., Maclean, D., White, I.H., and Carroll, J.E. see Maclean, D.
Poiares Baptista, J.P.V., and McEwan, N.J. Prediction of slant-path rain crosspolarisation discrimination ratio and phase using dual-polarisation radar data p460
Pollack, M.A., Caneau, C., Srivastava, A.K., Dentai, A.G., and Zyskind, J.L. see Caneau, C.
Pollok, W., Spaanenburg, L., and Vermeulen, W. see Spaanenburg, L.
Poo, G.S. Power spectra of *m*B1C codes for optical communication p788
Poole, S.B., Mears, R.J., Reekie, L., and Payne, D.N. see Mears, R.J.
Poole, S.B., Payne, D.N., and Fermann, M.E. Fabrication of low-loss optical fibres containing rare-earth ions p737
Poulain, P., Razeghi, M., Kazmierski, K., Blondeau, R., and Philippe, P. InGaAs photodiodes prepared by low-pressure MOCVD p441
Povlsen, J.H. Two-parameter characterisation of single-cladded, dispersion-shifted single-mode fibres p322
Powazinik, W., Manning, J., Olshansky, R., and Fye, D.M. see Manning, J.
Powazinik, W., Olshansky, R., Fye, D., Manning, J., Stern, M., Meland, E., Ulbricht, L., and Lauer, R. see Olshansky, R.
Powazinik, W., Schlafer, J., Su, C.B., and Lauer, R.B. see Schlafer, J.
Powazinik, W., Su, C.B., Lanzisera, V., Olshansky, R., Meland, E., Schlafer, J., and Lauer, R.B. see Su, C.B.
Pozar, D.M. Microstrip antenna aperture-coupled to a microstripline p49
Pratt, D.J., Dakin, J.P., Bibby, G.W., and Ross, J.N. see Dakin, J.P.
Pratt, D.J., and Dakin, J.P. see Dakin, J.P.
Preston, K.R., Stallard, W.A., Hodgkinson, T.G., and Booth, R.C. see Stallard, W.A.
Pretorius, J.A., Shubat, A.S., and Salama, C.A.T. Latched domino CMOS logic p263
Pretorius, J.A., Shubat, A.S., and Salama, C.A.T. Testability enhancement of domino CMOS logic p336
Pribetich, P., Kennis, P., and Seguinot, C. Experimental determination of propagation parameters of a microstrip line with tuning septums p745
Pribetich, P., Roudot, B., Terret, C., Daniel, J.P., and Kennis, P. see Roudot, B.
Pribetich, P., Seguinot, C., El Kadiri, M., Kennis, P., and Villotte, J.P. see Seguinot, C.
Price, W.H., and Tiwari, S. see Tiwari, S.
Prieto, A., and Rodriguez, J. see Rodriguez, J.
Prior, C.J., and Hall, P.S. Microstrip disc antenna with short-circuited annular ring p719
Pritchard, J.A.S. Real-time demodulation of signals using statistical methods p1183
Pues, H.F., Fong, K.S., and Withers, M.J. see Fong, K.S.
Pumfrey, J., Cristoloveanu, S., Scheid, E., Hemment, P.L.F., and Arrowsmith, R.P. see Cristoloveanu, S.

Q

Qiu, C.X., and Shih, I. see Shih, I.
Qua, G.J., Campbell, J.C., Dentai, A.G., Long, J., and Riggs, V.G. see Campbell, J.C.

R

Rabbaa, A., and Dubost, G. see Dubost, G.
Rachman, D.M., and Downing, B.J. Novel polar frequency discriminator p1108
Rademeyer, P., and Du Plessis, M. see Du Plessis, M.
Rafferty, W., and Saulnier, G.J. Variable-delay, sine/cosine noncoherent detector p586
Raina, J.P., and Udpikar, V. see Udpikar, V.
Ramamoorthy, V. Switched predictor adaptation of DPCM-AQB speech coder using an imbedded vector quantisation p442
Ramdani, J., Verriele, H., Maricot, S., Constant, M., and Decoster, D. see Verriele, H.
Rathore, T.S. Active-*RC*-circuit synthesis for the simulation of a grounded inductor d276
Ratnam, P., and Salama, C.A.T. Selectively implanted oxygen isolation technology (SIO) p448
Ray, D., and Gorecki, J. Novel single-ended CMOS transconductance amplifiers p642
Razeghi, M., L'Haridon, H., Favennec, P.N., and Salvi, M. see L'Haridon, H.
Razeghi, M., Poulain, P., Kazmierski, K., Blondeau, R., and Philippe, P. see Poulain, P.
Reekie, L., McInerney, J., and Bradley, D.J. see McInerney, J.
Reekie, L., Mears, R.J., Poole, S.B., and Payne, D.N. see Mears, R.J.
Rees, G.J. Calculation of mixing in nonlinear circuits p25
Regnault, J.C., Nelson, A.W., Moss, R.H., Spurdens, P.C., and Wong, S. see Nelson, A.W.
Regnault, J.C., Nelson, A.W., Wong, S., Hobbs, R.E., Murrell, D.L., and Walling, R.H. see Nelson, A.W.
Regnault, J.C., O'Mahony, M.J., Marshall, I.W., and Devlin, W.J. see O'Mahony, M.J.
Rein, H.-M., Derksen, R.H., and Wörner, K. see Derksen, R.H.
Renner, D., Collar, A.J., Greene, P.D., and Henshall, G.D. High-power operation of DCPBH lasers emitting at 1·52 μm wavelength p1006
Rey, G., Cazarre, A., Tasselli, J., Marty, A., and Bailbe, J.P. see Cazarre, A.
Richards, W.F., Davidson, S.E., and Long, S.A. see Davidson, S.E.
Richert, P., Lamkemeyer, M., Brockherde, W., and Hosticka, B.J. see Lamkemeyer, M.
Rickard, D.C., Hawkins, N.D., Steele, R., and Shepherd, C.R. see Hawkins, N.D.
Riggs, V.G., Campbell, J.C., Dentai, A.G., Qua, G.J., and Long, J. see Campbell, J.C.
Rigo, C., Cinguino, P., Genova, F., and Stano, A. see Cinguino, P.
Riley, S.P., Barnes, S.R., and Wolfe, S.V. see Barnes, S.R.
Riou, J., Bouadma, N., and Kampfer, A. see Bouadma, N.
Riris, A., and Aitchison, C.S. Intermodulation distortion improvement by active compensation in impatt ampiifiers p190
Riris, A., and Aitchison, C.S. Linearity and efficiency improvement by active compensation in impatt amplifiers p189
Ritchie, S., Nelson, A.W., Wong, S., and Sargood, S.K. see Nelson, A.W.
Ritter, J.E., Plastow, R., Monham, K.L., Carter, A.C., Croft, T.D., and Gibson, M. see Plastow, R.
Robein, D., Rose, B., Devoldere, P., Mircea, A., and Trotte, M. see Rose, B.
Robert, J., Temes, G.C., Krummenacher, F., Valencic, V., and Deval, P. Offset and clock-feedthrough compensated switched-capacitor integrators p941
Roberts, J.H. Envelope statistics of narrowband Cauchy noise p1215
Roberts, J.S., Li Kam Wa, P., Sitch, J.E., Mason, N.J., and Robson, P.N. see Li Kam Wa, P.
Robertson, J.M., McGillivray, I., and Walton, A.J. see McGillivray, I.
Robertson, J.M., Walton, A.J., Holwill, R., and Moore, B. see Walton, A.J.
Robertson, J.M., Walton, A.J., Holwill, R., and Moore, M.B. see Walton, A.J.
Robertson, J.M., Walton, A.J., and Holwill, R. see Walton, A.J.
Robertson, S.C., and McMillan, J.L. see McMillan, J.L.
Robson, P.N., Chand, N., and Houston, P.A. see Chand, N.
Robson, P.N., Li Kam Wa, P., Sitch, J.E., Mason, N.J., and Roberts, J.S. see Li Kam Wa, P.
Rochegude, P., and Fabre, A. see Fabre, A.
Rodhe, P.M., and Trikopoulos, M. Few parameter method for bandwidth prediction of a fibre chain p276
Rodriguez, J., and Prieto, A. Design and performance of π guide directional couplers with very flat couplings p292
Rodwell, M.J.W., Weingarten, K.J., Heinrich, H.K., Kolner, B.H., and Bloom, D.M. see Weingarten, K.J.
Rogers, D.V., and Allnutt, J.E. Some practical considerations for depolarisation compensation in 14/11 and 14/12 GHz communications satellite systems p1093
Romeiser, M.B., Shumate, P.W., Gimlett, J.L., Stern, M., and Cheung, N.K. see Shumate, P.W.
Romeiser, M.B., Stern, M., Gimlett, J.L., Curtis, L., Cheung, N.K., Young, W.C., and Shumate, P.W. see Stern, M.
Roques-Carmes, C., Vaterkowski, J.L., and Gagnepain, J.J. see Vaterkowski, J.L.
Rose, B., Devoldere, P., Mircea, A., Robein, D., and Trotte, M. Low-threshold 1·3 μm GaInAsP/InP lasers grown by atmospheric-pressure MOVPE p521
Ross, J.N., Dakin, J.P., Pratt, D.J., and Bibby, G.W. see Dakin, J.P.
Rossi, U., Caponi, R., Coppa, G., and Di Vita, P. see Caponi, R.
Roudot, B., Terret, C., Daniel, J.P., Pribetich, P., and Kennis, P. Fundamental surface-wave effects on microstrip antenna radiation p1112
Roy, A.K., Lissberger, P.H., and McCartney, D.J. see Lissberger, P.H.
Rozzi, T.E., Perkins, M.C., and Ormondroyd, R.F. see Perkins, M.C.
Rücker, F., and Ortgies, G. see Ortgies, G.
Ryan, F.J., Chang, M.F., Vahrenkamp, R.P., and Kirkpatrick, C.G. see Chang, M.F.
Rylov, S.V., and Semenov, V.K. Wide-margin Josephson-junction A/D convertor using redundant coding p829

S

Said, A.E. Stray-free switched-capacitor building block that realises delay, constant multiplier, or summer circuit p167 e550
Saito, H., Noguchi, Y., and Nagai, H. CW operation of 1·5 μm InGaAsP/InP BH lasers with a reactive-ion-etched facet p748
Saito, S., Mogensen, F., and Olesen, H. Effective bandwidth for FM noise suppression in an injection-locked semiconductor laser p1173
Saito, S., Takada, T., Kato, N., and Idda, M. see Takada, T.
Saito, S., and Wenke, G. see Wenke, G.
Sakai, K., Utaka, K., Akiba, S., and Matsushima, Y. see Utaka, K.
Sakai, S., Kohda, S., Minagawa, C., and Masuda, K. Defect-tolerant active matrix circuit with duplicated data input routes for large liquid crystal display p1051
Sakamoto, T., Nakagawa, T., Imamoto, H., Kojima, T., Ohta, K., and Kawai, N.J. see Nakagawa, T.
Sakashita, T., Tamura, A., Uenoyama, T., Nishii, K., Tambo, T., Nagano, K., and Onuma, T. see Tamura, A.
Salama, C.A.T., Pretorius, J.A., and Shubat, A.S. see Pretorius, J.A.
Salama, C.A.T., and Ratnam, P. see Ratnam, P.
Salama, C.A.T., and Sin, J.K.O. see Sin, J.K.O.

Salama, C.A.T., and Wong, S.L. see Wong, S.L.
Salmer, G., Versnaeyen, C., Vanoverschelde, A., Cappy, A., and Schortgen, M. see Versnaeyen, C.
Salour, M.M., Schoner, G., Kull, M., and Bechtel, J.H. Semiconductor-platelet fibre-optic temperature sensor p135
Salvi, M., L'Haridon, H., Favennec, P.N., and Razeghi, M. see L'Haridon, H.
Salzman, J., Lang, R., and Yariv, A. Efficiency of unstable resonator semiconductor lasers p821
Samson, P.J. Measurement of single-mode optical-fibre spot size using strip integration of far field p589
Sanada, T., Wada, O., Kuno, M., and Fujii, T. see Wada, O.
Sandman, A.M. Bandwidth and signal-data compression using maximum specified error as control p673
Sano, Y., Kinoshita, H., Ishida, T., Akiyama, M., Inomata, H., Nishi, S., and Kaminishi, K. see Kinoshita, H.
Saravanos, C., and Lowe, R.S. New approach for determining non-Gaussian mode fields of single-mode fibres from measurements in far field p898
Sargood, S.K., Nelson, A.W., Wong, S., and Ritchie, S. see Nelson, A.W.
Sarkar, T.K., Neelakantaswamy, P.S., and Turkman, R.I. see Neelakantaswamy, P.S.
Sarma, A.D., Blakey, J.R., Cole, R.S., and Silva Mello, L. see Blakey, J.R.
Saruwatari, M., Okamoto, K., Miyazawa, H., and Noda, J. see Okamoto, K.
Saruwatari, M., Takada, A., and Sugie, T. see Takada, A.
Sasai, Y., Shibata, J., Mori, Y., Hase, N., Serizawa, H., and Kajiwara, T. see Shibata, J.
Sasaki, M., Inoue, T., and Yokoshima, I. see Inoue, T.
Sasaki, Y., Ghosh, G., Kachi, S., and Kimura, M. see Ghosh, G.
Sasaki, Y., Hosaka, T., Noda, J., and Horiguchi, M. see Hosaka, T.
Sasaki, Y., Hosaka, T., and Noda, J. Low-loss polarisation-maintaining optical fibre with low crosstalk p156
Sasaki, Y., Hosaka, T., and Okamoto, K. see Hosaka, T.
Sato, H., Fujita, T., Ohya, J., Matsuda, K., Ishino, M., and Serizawa, H. see Fujita, T.
Sato, T., Berenz, J., Nakano, K., and Fawcett, K. see Berenz, J.
Saul, R.H., King, W.C., Olsson, N.A., Zipfel, C.L., Chin, B.H., Chin, A.K., Camlibel, I., and Minneci, G. 180 Mbit/s, 35 km transmission over single-mode fibre using 1·3 μm edge-emitting LEDs p773
Saulnier, G.J., and Rafferty, W. see Rafferty, W.
Saunier, P., and Tserng, H.Q. see Tserng, H.Q.
Schecker, J.A., and Chu, T.-S. see Chu, T.-S.
Scheid, E., Cristoloveanu, S., Pumfrey, J., Hemment, P.L.F., and Arrowsmith, R.P. see Cristoloveanu, S.
Schindler, G. Reduction of sidelobe level by improved strut design for low *F/D* Cassegrain antennas p203
Schlachetzki, A., and Kowalsky, W. see Kowalsky, W.
Schlafer, J., Su, C.B., Lanzisera, V., Olshansky, R., Powazinik, W., Meland, E., and Lauer, R.B. see Su, C.B.
Schlafer, J., Su, C.B., Powazinik, W., and Lauer, R.B. 20 GHz bandwidth InGaAs photodetector for long-wavelength microwave optical links p469
Schlosser, E., Arnold, G., Gottsmann, H., Krumpholz, O., and Schurr, E.-A. see Arnold, G.
Schmitt, R., and Heime, K. InGaAs junction FETs with frequency limit (MAG = 1) above 30 GHz p449
Schoenenberger, J.G., Griffiths, H.D., and Long, N.R.W. see Griffiths, H.D.
Schoner, G., Salour, M.M., Kull, M., and Bechtel, J.H. see Salour, M.M.
Schortgen, M., Versnaeyen, C., Vanoverschelde, A., Cappy, A., and Salmer, G. see Versnaeyen, C.
Schroeder, N., Arndt, F., Bornemann, J., Grauerholz, D., and Fasold, D. see Arndt, F.
Schroeter-Janssen, H., Su, L.M., Li, K.C., and Grote, N. see Su, L.M.
Schüler, H., Arndt, F., Bornemann, J., and Piontek, C. see Arndt, F.
Schubert, E.F., Fischer, A., and Ploog, K. GaAs saw-tooth superlattice light-emitting diode operating monochromatically at $\lambda \geq 0{\cdot}9$ μm p411
Schumacher, H., Emeis, N., and Beneking, H. see Emeis, N.
Schurr, E.-A., Arnold, G., Gottsmann, H., Krumpholz, O., and Schlosser, E. see Arnold, G.
Schwaderer, B., Schwander, T., and Storm, H. see Schwander, T.
Schwander, T., Schwaderer, B., and Storm, H. Coupling of lasers to single-mode fibres with high efficiency and low optical feedback p287
Scifres, D., Welch, D.F., Cross, P., Kung, H., Streifer, W., Burnham, R.D., and Yaeli, J. see Welch, D.F.
Scifres, D.R., Streifer, W., Hardy, A., Burnham, R.D., and Thornton, R.L. see Streifer, W.
Scifres, D.R., Streifer, W., Hardy, A., and Burnham, R.D. see Streifer, W.
Scott, R.P., and Emerson, D.J. Temperature range specification of system gain for microwave radio equipment mounted externally p469
Seagar, A.D., Conway, J., Hawley, M.S., Brown, B.H., and Barber, D.C. see Conway, J.
Sealy, B.J., Shahid, M.A., and Gwilliam, R. see Shahid, M.A.
Seevinck, E. New class of high-performance PTAT current sources d1069
Segner, B.P., Koszi, L.A., Chin, A.K., Shen, T.M., and Dutta, N.K. see Koszi, L.A.
Seguinot, C., El Kadiri, M., Kennis, P., Pribetich, P., and Villotte, J.P. Time-domain response of MIS coplanar waveguides for MMICs p1185
Seguinot, C., Pribetich, P., and Kennis, P. see Pribetich, P.
Seikai, S., Nakashima, T., Shibata, N., and Ohashi, M. see Nakashima, T.
Seikai, S., Shibata, N., Tsubokawa, M., and Kimura, Y. see Shibata, N.
Seikai, S., Shibata, N., Tsubokawa, M., and Ohashi, M. see Shibata, N.
Seikai, S., Tsubokawa, M., Shibata, N., and Higashi, T. see Tsubokawa, M.
Selvan, B., Tjhung, T.T., Teo, S.K., and Mendis, F.V.C. see Tjhung, T.T.
Selvan, B., Tjhung, T.T., and Mendis, F.V.C. see Tjhung, T.T.
Semenov, V.K., and Rylov, S.V. see Rylov, S.V.
Senani, R. New *RC*-active oscillator configuration employing unity-gain amplifiers p889
Senani, R. Novel higher-order active filter design using current conveyors p1055
Sengupta, D.L., and Lan, G.-L. see Lan, G.-L.
Serizawa, H., Fujita, T., Ohya, J., Matsuda, K., Ishino, M., and Sato, H. see Fujita, T.
Serizawa, H., Shibata, J., Mori, Y., Sasai, Y., Hase, N., and Kajiwara, T. see Shibata, J.
Shah, N.J., Pei, S.S., Tu, C.W., Hendel, R.H., and Tiberio, R.C. 11 ps ring oscillators with sub-micrometre selectively doped heterostructure transistors p151
Shahid, M.A., Gwilliam, R., and Sealy, B.J. Se^+ ion implantation into encapsulated GaAs p729
Shang, H.-T., Lenahan, T.A., Glodis, P.F., and Kalish, D. Design and fabrication of dispersion-shifted depressed-clad triangular-profile (DDT) single-mode fibre p201
Shankar, P., and Adiga, B.S. see Adiga, B.S.
Sharestani, E., and Cuthbert, L.G. FIR digital filters designed to a group-delay characteristic p542
Shark, L.-K., Terrell, T.J., and Simpson, R.J. New synchronisation method for satellite-switched time-division multiple-access systems p547
Sheem, S.K., Cheng, W.H., Perillo, L., Forouhar, S., Kim, O.K., and Jiang, C.L. see Cheng, W.H.
Shen, T.M., Koszi, L.A., Chin, A.K., Segner, B.P., and Dutta, N.K. see Koszi, L.A.
Shen, T.M., and Agrawal, G.P. Theoretical analysis of mode partition noise in single-frequency semiconductor lasers p1220
Shepherd, C.R., Hawkins, N.D., Steele, R., and Rickard, D.C. see Hawkins, N.D.
Shi, Bingxue, and Tsividis, Y. see Tsividis, Y.
Shibata, J., Mori, Y., Sasai, Y., Hase, N., Serizawa, H., and Kajiwara, T. Fundamental characteristics of an InGaAsP/InP laser transistor p98
Shibata, N., Nakashima, T., Ohashi, M., and Seikai, S. see Nakashima, T.
Shibata, N., Noguchi, K., Uesugi, N., Ishihara, K., and Negishi, Y. see Noguchi, K.
Shibata, N., Tsubokawa, M., Kimura, Y., and Seikai, S. Loss of temporal coherence due to fibre chromatic dispersion p1087
Shibata, N., Tsubokawa, M., Ohashi, M., and Seikai, S. Bending loss measurement of LP_{11} mode in quasi-single-mode operation region p1042
Shibata, N., Tsubokawa, M., Seikai, S., and Higashi, T. see Tsubokawa, M.
Shibata, S., Hanawa, F., and Nakahara, M. Low-OH-content fibre fabrication using particle-size control sol-gel method p1145
Shibata, S., Suda, H., and Nakahara, M. see Suda, H.
Shigaki, M., Imamura, K., Ohnishi, T., Yokoyama, N., and Nishi, H. see Imamura, K.
Shih, H.D., Kim, B., Tserng, H.Q., and Tiku, S.K. see Kim, B.
Shih, H.D., and Bayraktaroglu, B. see Bayraktaroglu, B.
Shih, I., and Qiu, C.X. Current/voltage characteristic of $CuInSe_2$ homojunctions p350
Shikada, M., Emura, K., Yamazaki, S., Komatsu, K., Mito, I., and Minemura, K. see Emura, K.
Shikada, M., Yamazaki, S., Emura, K., Yamaguchi, M., and Mito, I. see Yamazaki, S.
Shimada, J., Suzuki, Y., and Yamashita, H. see Suzuki, Y.
Shimizu, H., Kimura, T., Miyagi, H., and Noda, K. see Kimura, T.
Shimizu, M., Ohmori, Y., and Nakahara, M. Fabrication of antimony oxide-doped silica fibres by the VAD process p872
Shimizu, Y., and Tanaka, M. New cut of quartz for SAW devices with extremely small temperature coefficient p225
Shinbori, O., Nakai, T., Mimura, Y., and Tokiwa, H. see Nakai, T.
Shinbori, O., Tokiwa, H., Mimura, Y., and Nakai, T. see Tokiwa, H.
Shinohara, S., Inoue, N., Yoshida, H., and Sumi, M. New automatic control of returned light into frequency stabilised semiconductor laser p205
Shinozaki, K., Mannoh, M., Yuasa, T., Asakawa, K., and Ishii, M. see Mannoh, M.
Shubat, A.S., Pretorius, J.A., and Salama, C.A.T. see Pretorius, J.A.
Shui, Y.A., Zhang, D., and Wu, W.Q. see Zhang, D.
Shuley, N.V. Relative convergence for moment-method solutions of integral equations of the first kind as applied to dichroic problems p95
Shum, D.K., and Temes, G.C. Stray-insensitive differential input stages for A/D convertors e216
Shumate, P.W., Gimlett, J.L., Stern, M., Curtis, L., Young, W.C., and Cheung, N.K. see Gimlett, J.L.
Shumate, P.W., Gimlett, J.L., Stern, M., Romeiser, M.B., and Cheung, N.K. Transmission of 140 Mbit/s signals over single-mode fibre using surface- and edge-emitting 1·3 μm LEDs p522
Shumate, P.W., Gimlett, J.L., Stern, M., Vodhanel, R.S., Cheung, N.K., Chang, G.K., Leblanc, H.P., and Suzuki, A. see Gimlett, J.L.
Shumate, P.W., Stern, M., Gimlett, J.L., Curtis, L., Cheung, N.K., Romeiser, M.B., and Young, W.C. see Stern, M.
Sibbett, W., Smith, K., and Langford, N. see Smith, K.
Sihvola, A. Note on frequency dependence of quality factor of cavity resonators p736
Silard, A.P. Monitoring the final on-zone dynamics in TIL GTO thyristors p691
Sillars, D.B., and Davis, L.E. Coupled-slot fin-line isolators p97
Silva Mello, L., Blakey, J.R., Cole, R.S., and Sarma, A.D. see Blakey, J.R.
Simpson, J.R., Jopson, R.M., Eisenstein, G., and Hall, K.L. see Jopson, R.M.
Simpson, R.J., Shark, L.-K., and Terrell, T.J. see Shark, L.-K.
Sin, J.K.O., and Salama, C.A.T. SINFET: a new high conductance, high switching speed MOS-gated transistor, The p1134
Singh, P.K., Singh, S.N., and Kishore, R. see Singh, S.N.
Singh, S.N., Singh, P.K., and Kishore, R. Physical significance of scaling factor used in transport expressions of polycrystalline silicon p21
Singhal, K., Nagaraj, K., Viswanathan, T.R., and Vlach, J. see Nagaraj, K.
Singhal, K., and Nagaraj, K. see Nagaraj, K.
Sitch, J.E., Li Kam Wa, P., Mason, N.J., Roberts, J.S., and Robson, P.N. see Li Kam Wa, P.
Siuzdak, J. Digital phasemeter with phase compensation p702
Siuzdak, J. Noise-proof phase meter with switched lowpass filters p591
Siuzdak, J., and Holejko, K. see Holejko, K.
Slock, S., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Catthoor, F., Vandebroek, P., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.
Smayling, M.C., and Baglee, D.A. see Baglee, D.A.
Smith, D.W., Hodgkinson, T.G., and Harmon, R.A. see Hodgkinson, T.G.
Smith, D.W., Mogensen, F., and Hodgkinson, T.G. see Mogensen, F.
Smith, K., Sibbett, W., and Langford, N. Streak camera study of ultrashort pulse propagation in a weakly multimode optical fibre p1068
Smith, P.M., Mishra, U.K., Palmateer, S.C., Nightingale, S.J., and Upton, M.A.G. see Mishra, U.K.
Snyder, A.W. Polarising beamsplitter from fused-taper couplers p623
Snyder, A.W., and Ankiewicz, A. Polarising anisotropic fibres and their leaky modes p1105
Snyder, A.W., and Stevenson, A. Polarisation splitters and birefringent couplers p75
Snyder, A.W., and Zheng, Xue-Heng Fused couplers of arbitrary cross-section p1079
Sobhy, M.I., and Tayrani, R. see Tayrani, R.
Soccolich, C.E., Boyd, G.D., Bowers, J.E., Koch, T.L., Burrus, C.A., and Jopson, R.M. see Boyd, G.D.
Sohal, J.S., and Koonar, S.S. see Koonar, S.S.
Solimini, D., Bardati, F., and Moagiardo, M. see Bardati, F.
Solymar, L., and Wilson, T. Controllable nonreciprocal optical phase shifter p234
Somlo, P.I., and Hunter, J.D. see Hunter, J.D.
Soper, M.C. Useful matrix theorem with applications to electronic circuit theory p649
Soref, R.A., and Lorenzo, J.P. Single-crystal silicon: a new material for 1·3 and 1·6 μm integrated-optical components p953
Spaanenburg, L., Pollok, W., and Vermeulen, W. Novel switched logic CMOS latch building block p398
Spurdens, P.C., Nelson, A.W., Moss, R.H., Regnault, J.C., and Wong, S. see Nelson, A.W.
Srivastava, A.K., Caneau, C., Dentai, A.G., Zyskind, J.L., and Pollack, M.A. see Caneau, C.
Stafsudd, O.M., Craig, R.R., Casperson, L.W., Yang, J.J.J., Evans, G.A., and Davidheiser, R.A. see Craig, R.R.
Stallard, W.A., Heatley, D.J.T., Lobbett, R.A., White, T.K., Farthing, A.J., Gilbert, K.I., and Beaumont, A.R. see Heatley, D.J.T.
Stallard, W.A., Hill, G.R., and Lobbett, R.A. see Hill, G.R.
Stallard, W.A., Hodgkinson, T.G., Preston, K.R., and Booth, R.C. Novel $LiNbO_3$ integrated-optic

component for coherent optical heterodyne detection p1077
Stano, A., Cinguino, P., Genova, F., and Rigo, C. see Cinguino, P.
Starr, E.M., Nourshargh, N., Fox, N.I., and Jones, S.G. see Nourshargh, N.
Steel, J., Campbell, J.C., and Davey, L. Measurement and prediction of digital radio performance on a long overwater path p1212
Steele, R., Hawkins, N.D., Rickard, D.C., and Shepherd, C.R. see Hawkins, N.D.
Steele, R., and Gharavi, H. see Gharavi, H.
Steele, R., and Wong, K.H.J. see Wong, K.H.J.
Stefanov, E.N., Asenov, A.M., Antov, B.Z., and Vitanov, P.K. see Asenov, A.M.
Stefanović, M.C. Performance of signals coded by Miller code in the presence of noise and interference p667
Steinbach, G., and Langmann, U. New proposal for a high-speed high-resolution analogue/digital convertor with reduced component count p235
Stenton, J.A.C., and Edgcombe, C.J. see Edgcombe, C.J.
Stern, M., Gimlett, J.L., Curtis, L., Cheung, N.K., Romeiser, M.B., Young, W.C., and Shumate, P.W. Bidirectional LED transmission on single-mode fibre in the 1300 and 1500 nm wavelength regions p928
Stern, M., Gimlett, J.L., Curtis, L., Young, W.C., Cheung, N.K., and Shumate, P.W. see Gimlett, J.L.
Stern, M., Gimlett, J.L., Vodhanel, R.S., Cheung, N.K., Chang, G.K., Leblanc, H.P., Shumate, P.W., and Suzuki, A. see Gimlett, J.L.
Stern, M., Olshansky, R., Fye, D., Manning, J., Meland, E., Powazinik, W., Ulbricht, L., and Lauer, R. see Olshansky, R.
Stern, M., Shumate, P.W., Gimlett, J.L., Romeiser, M.B., and Cheung, N.K. see Shumate, P.W.
Stevenson, A., and Snyder, A.W. see Snyder, A.W.
Stewart, W.J., Bennion, I., and Goodwin, M.J. see Bennion, I.
Stoev, I., Bauer, F., and Balk, P. Hot-hole-induced degradation in depletion-mode *n*-channel MOSFETs p30
Stokoe, J.C.D., and Hinds, D.J. see Hinds, D.J.
Stone, J. Optical-fibre Fabry-Perot interferometer with finesse of 300 p504
Stone, J., Chraplyvy, A.R., and Kasper, B.L. Long-range 1·5 μm OTDR in a single-mode fibre using a D_2 gas-in-glass laser (100 km) or a semiconductor laser (60 km) p541
Storm, H., Schwander, T., and Schwaderer, B. see Schwander, T.
Strappaveccia, S., Fedele, G., and Orsini, M. see Fedele, G.
Strebel, B., Bachus, E.-J., Böhnke, F., Braun, R.-P., Eutin, W., Foisel, H., and Heimes, K. see Bachus, E.-J.
Strebel, B., Bachus, E.-J., Braun, R.-P., Eutin, W., Großmann, E., Foisel, H., and Heimes, K. see Bachus, E.-J.
Streifer, W., Hardy, A., Burnham, R.D., Thornton, R.L., and Scifres, D.R. Criteria for design of single-lobe phased-array diode lasers p505
Streifer, W., Hardy, A., Burnham, R.D., and Scifres, D.R. Single-lobe phased-array diode lasers p118
Streifer, W., Welch, D.F., Scifres, D., Cross, P., Kung, H., Burnham, R.D., and Yaeli, J. see Welch, D.F.
Stulz, L.W., Eisenstein, G., Korotky, S.K., Veselka, J.J., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Stulz, L.W., Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Veselka, J.J., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Stulz, L.W., Tucker, R.S., Korotky, S.K., Eisenstein, G., Koren, U., and Veselka, J.J. see Tucker, R.S.
Styblinski, M.A., and Opalski, L.J. see Opalski, L.J.
Su, C.B., Lanzisera, V., Olshansky, R., Powazinik, W., Meland, E., Schlafer, J., and Lauer, R.B. 15 GHz direct modulation bandwidth of vapour-phase regrown 1·3 μm InGaAsP buried-heterostructure lasers under CW operation at room temperature p577
Su, C.B., Lanzisera, V., and Olshansky, R. Measurement of nonlinear gain from FM modulation index of InGaAsP lasers p893
Su, C.B., Olshansky, R., Fye, D.M., and Manning, J. see Olshansky, R.
Su, C.B., Schlafer, J., Powazinik, W., and Lauer, R.B. see Schlafer, J.
Su, Ching-Chuan Origin of spurious modes in the analysis of optical fibre using the finite-element or finite-difference technique p858
Su, L.M., Schroeter-Janssen, H., Li, K.C., and Grote, N. PnP-type InP/InGaAsP/InP bipolar transistor p989
Suda, H., Shibata, S., and Nakahara, M. Double-flame VAD process for high-rate optical preform fabrication p29 e359
Suda, H., Shibata, S., and Nakahara, M. High-rate fabrication of wholly synthesised fibre preforms by the multiflame VAD method using $SiHCl_3$ raw materials p1123
Sudo, H., Wakao, K., Kihara, K., Tanahashi, T., Kusunoki, T., Tabuchi, H., Ishikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Suematsu, Y., Koentjoro, S., Eda, N., and Furuya, K. see Koentjoro, S.
Suematsu, Y., Tohmori, Y., Komori, K., and Arai, S. see Tohmori, Y.
Suematsu, Y., Yamamoto, H., and Asada, M. see Yamamoto, H.
Suemune, U., Fujii, H., and Yamanishi, M. see Fujii, H.
Sugawara, H., Ishikawa, M., Ohba, Y., Yamamoto, M., and Nakanisi, T. see Ishikawa, M.
Sugie, T., Takada, A., and Saruwatari, M. see Takada, A.
Sugiura, O., Takahashi, T., Watanabe, I., and Matsumura, M. see Takahashi, T.
Sugou, S., Nishimoto, H., Kitamura, M., Mito, I., and Yanase, T. High reliability of 1·5 μm two-step VPE-LPE-grown DC-PBH lasers p1154
Sullivan, G.J., Darcie, T.E., and Tucker, R.S. see Darcie, T.E.
Sumi, M., Shinohara, S., Inoue, N., and Yoshida, H. see Shinohara, S.
Sumida, J., and Davarian, F. see Davarian, F.
Surakampontorn, W. Integrable wide-dynamic-range negative resistance circuits p506
Susa, N., Uwai, K., and Mikami, O. see Uwai, K.
Susaki, W., Kaneno, N., Kadowaki, T., Ohsawa, J., Aoyagi, T., Hinata, S., and Ikeda, K. see Kaneno, N.
Susaki, W., Ohsawa, J., Hinata, S., Aoyagi, T., Kadowaki, T., Kaneno, N., and Ikeda, K. see Ohsawa, J.
Sussmann, R.S., Ash, R.M., Moseley, A.J., and Goodfellow, R.C. Ultra-low-capacitance flip-chip-bonded GaInAs PIN photodetector for long-wavelength high-data-rate fibre-optic systems p593
Suzuki, A., Gimlett, J.L., Stern, M., Vodhanel, R.S., Cheung, N.K., Chang, G.K., Leblanc, H.P., and Shumate, P.W. see Gimlett, J.L.
Suzuki, H., Mochizuki, K., Fujise, M., Watanabe, M., Koishi, M., and Tsuchiya, T. see Mochizuki, K.
Suzuki, M., Koshiba, M., and Kumagami, H. see Koshiba, M.
Suzuki, M., Noda, Y., Kushiro, Y., and Akiba, S. see Noda, Y.
Suzuki, M., Yoshikai, N., Kawanishi, S., and Konaka, S. see Yoshikai, N.
Suzuki, M., and Hagimoto, K. Monolithic 2·1 Gbit/s decision circuit with a decision threshold ambiguity width of less than 10 mV p844
Suzuki, M., and Koshiba, M. see Koshiba, M.
Suzuki, S., Kokubun, Y., Iijima, Y., and Iga, K. see Kokubun, Y.
Suzuki, T., Kobayashi, K., Kawata, S., Gomyo, A., and Hino, I. see Kobayashi, K.
Suzuki, Y., Shimada, J., and Yamashita, H. High-speed optical-optical logic gate for optical computers p161
Swamy, M.N.S., and Nguyen, D.T. see Nguyen, D.T.
Swan, D.G., and Bennett, J.C. see Bennett, J.C.
Swanson, J.G., and Harrison, A.J. see Harrison, A.J.

T

Tabuchi, H., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Ishikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Tagami, H., Nakano, H., and Yamauchi, J. see Nakano, H.
Taha, T.E., Baudrand, H., and Benslama, M. see Baudrand, H.
Tahim, R.S., Pham, T., and Chang, K. Millimetre-wave microstrip subharmonically pumped mixer p861
Tai, S., Kyuma, K., and Nakayama, T. Novel measuring method for spectral linewidth of laser diodes using fibre-optic ring resonator p91
Takada, A., Sugie, T., and Saruwatari, M. Picosecond optical pulse compression from gain-switched 1·3 μm distributed-feedback laser diode through highly dispersive single-mode fibre p969
Takada, T., Saito, S., Kato, N., and Idda, M. 1 GHz 5 mA 128/129 GaAs prescaler IC p731
Takahashi, M., Araki, K., and Ueda, H. see Araki, K.
Takahashi, S., Enomoto, Y., Ohishi, Y., and Murakami, T. see Enomoto, Y.
Takahashi, T., Sugiura, O., Watanabe, I., and Matsumura, M. SiO_2/native-oxide double-gate InSb MOSFETs p545
Takakuwa, H., Kato, Y., Watanabe, S., and Mori, Y. Low-noise HEMT fabricated by MOCVD p125
Takasaki, Y., Yamashita, K., Kinoshita, T., Maeda, M., Kaji, T., and Maeda, N. see Yamashita, K.
Takazawa, H., and Haneishi, M. see Haneishi, M.
Takeuchi, M., Yamanouchi, K., Meguro, T., and Wagatsuna, Y. see Yamanouchi, K.
Talman, J.R., Kasper, B.L., Campbell, J.C., Gnauck, A.H., and Dentai, A.G. see Kasper, B.L.
Tambo, T., Tamura, A., Sakashita, T., Uenoyama, T., Nishii, K., Nagano, K., and Onuma, T. see Tamura, A.
Tamura, A., Sakashita, T., Uenoyama, T., Nishii, K., Tambo, T., Nagano, K., and Onuma, T. High-speed GaAs SCFL divider p605
Tan, B.T., and Ingram, D.G.W. see Ingram, D.G.W.
Tanahashi, T., Wakao, K., Kihara, K., Sudo, H., Kusunoki, T., Tabuchi, H., Ishikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. see Wakao, K.
Tanaka, C., Kuwaki, N., Ohashi, M., and Uesugi, N. see Kuwaki, N.
Tanaka, M., and Shimizu, Y. see Shimizu, Y.
Tanaka, T., Ohira, T., Araki, K., and Kato, H. see Ohira, T.
Tanaka, T., and Araki, K. see Araki, K.
Tang, O.S.A., and Aitchison, C.S. Practical performance of a microwave distributed MESFET mixer p172
Tangonan, G.L. Variable-grating-mode liquid crystals for fibre-optic applications p701
Tarpin, F., Mouly, J.C., and Neirynck, J. see Mouly, J.C.
Tascone, R., Orta, R., and Zich, R. see Orta, R.
Tasselli, J., Cazarre, A., Marty, A., Bailbe, J.P., and Rey, G. see Cazarre, A.
Tavildar, A.S., Gupta, S.N., and Gupta, H.M. Detection of binary images in film grain noise p260
Taylor, H.F., Goldberg, L., Yurek, A.M., and Weller, J.F. see Goldberg, L.
Taylor, J.T., and Mavor, J. Exact design of highpass switched-capacitor filters of the LDI type d643
Taylor, R.I., and Burt, M.G. see Burt, M.G.
Tayrani, R., and Sobhy, M.I. Microwave PIN diodes for GaAs IC p409
Teare, M.J., Ulbricht, L.W., Olshansky, R., and Lauer, R.B. see Ulbricht, L.W.
Temes, G.C. High-accuracy pipeline A/D convertor configuration p762
Temes, G.C., Haug, K., and Maloberti, F. see Haug, K.
Temes, G.C., Robert, J., Krummenacher, F., Valencic, V., and Deval, P. see Robert, J.
Temes, G.C., and Shum, D.K. see Shum, D.K.
Temkin, H., Dupuis, R.D., and Hopkins, L.C. see Dupuis, R.D.
Ten, Y.A., Gulyaev, Y.V., and Plessky, V.P. see Gulyaev, Y.V.
Tenerz, L., and Hök, B. Micromachining of three-dimensional silicon structures using photoelectrochemical etching p1207
Teo, S.K., Tjhung, T.T., Mendis, F.V.C., and Selvan, B. see Tjhung, T.T.
Terrell, T.J., Shark, L.-K., and Simpson, R.J. see Shark, L.-K.
Terret, C., Jeddari, L., Mahdjoubi, K., and Daniel, J.P. see Jeddari, L.
Terret, C., Roudot, B., Daniel, J.P., Pribetich, P., and Kennis, P. see Roudot, B.
Terret, C., and Mahdjoubi, K. see Mahdjoubi, K.
Terui, H., Himeno, A., and Kobayashi, M. see Himeno, A.
Terui, H., Yamada, Y., Kawachi, M., and Kobayashi, M. Hybrid integration of a laser diode and high-silica multimode optical channel waveguide on silicon p646
Thebault, C., Henry, M., Maheo, P., and Vergos, J.C. see Henry, M.
Thompson, G.H.B., Whiteaway, J.E.A., and Goodwin, A.R. see Whiteaway, J.E.A.
Thompson, W.J., Agarwal, K.K., and Asbeck, P.M. see Agarwal, K.K.
Thornton, R.L., Streifer, W., Hardy, A., Burnham, R.D., and Scifres, D.R. see Streifer, W.
Thorpe, T.F., and Kingsbury, N.G. Monotonic descent algorithm to choose pulse locations in the excitation sequence of a multipulse speech coder p972
Thylén, L., Andersson, P.-O., Persson, A., and Edwall, G. see Andersson, P.-O.
Thylén, L., Djupsjöbacka, A., Janson, M., and Döldissen, W. Integrated-optic device for high-speed databuses p491
Tiberio, R.C., Shah, N.J., Pei, S.S., Tu, C.W., and Hendel, R.H. see Shah, N.J.
Tien, P.K., Koren, U., Eisenstein, G., Bowers, J.E., and Gnauck, A.H. see Koren, U.
Tien, P.K., Koren, U., and Penna, T.C. see Koren, U.
Tiffon, J., and Olivier, P. see Olivier, P.
Tiku, S.K. Threshold voltage adjustable process for self-aligned gate GaAs JFET p1091
Tiku, S.K., Kim, B., Tserng, H.Q., and Shih, H.D. see Kim, B.
Tiwari, S., and Price, W.H. Platinum intermetallic resistors for GaAs-based circuits p429
Tiwari, S.C. Effect of magnetic field on n^+ nn^+ GaAs ballistic diode p286 d848
Tjhung, T.T., Mendis, F.V.C., and Selvan, B. Use of superluminescent diodes in PFM optical video transmission p939
Tjhung, T.T., Teo, S.K., Mendis, F.V.C., and Selvan, B. Refractometry through optical frequency-domain reflectometry p613
Tkach, R.W., and Chraplyvy, A.R. Linewidth broadening and mode splitting due to weak feedback in single-frequency 1·5 μm lasers p1081
Toba, H., Inoue, K., and Nosu, K. see Inoue, K.
Toba, H., Inoue, K., and Nosu, K. 450 Mbit/s optical frequency-division-multiplexing transmission with an 11 GHz channel spacing p656
Todokoro, Y., and Yamashita, H. see Yamashita, H.
Tohmori, Y., Komori, K., Arai, S., and Suematsu, Y. Low-threshold-current CW operation of 1·5 μm GaInAsP/InP bundle-integrated-guide distributed-Bragg-reflector (BIG-DBR) lasers p743
Tokiwa, H., Mimura, Y., Nakai, T., and Shinbori, O. Fabrication of long single-mode and multimode fluoride glass fibres by the double-crucible technique p1131

Tokiwa, H., Nakai, T., Mimura, Y., and Shinbori, O. see Nakai, T.
Tomita, A., Cheung, N.K., and Glodis, P.F. see Cheung, N.K.
Tomita, A., and Lemaire, P.J. Hydrogen-induced loss increases in germanium-doped single-mode optical fibres: long-term predictions p71
Totzek, U. Frequency-dependent SNR for time-base distortions in magnetic recording p971
Touge, T., Horimatsu, T., Iwama, T., Oikawa, Y., Wada, O., and Nakagami, T. see Horimatsu, T.
Toumazou, C., and Lidgey, F.J. Floating-impedance convertors using current conveyors p640
Toumazou, C., and Lidgey, F.J. Novel bipolar differential input/output current-controlled current source p199
Travis, A.R.L., and Carroll, J.E. Possible fused fibre in-phase/quadrature measuring multiport p954
Tredgold, R.H., Winter, C.S., and El-Badawy, Z.I. Multiple monolayer adsorption—a new technique for the production of noncentrosymmetric films p554
Treves, D., Ashkenazy, J., and Levine, E. see Ashkenazy, J.
Trew, R.J., Hearn, C.P., and Bradshaw, E.S. Microstrip termination effects on dielectric resonator filters p1015
Trikopoulos, M., and Rodhe, P.M. see Rodhe, P.M.
Tromborg, B., Mark, J., and Bødtker, E. see Mark, J.
Trommer, G. Synthesis of monomode fibre profiles by solving a modified eigenvalue problem p458
Trommer, G. Synthesis of monomode fibre profiles by solving an almost linear system of algebraic equations p727
Trommer, R. Monolithic InGaAs photodiode array illuminated through an integrated waveguide p382
Trotte, M., Rose, B., Devoldere, P., Mircea, A., and Robein, D. see Rose, B.
Tsang, K.F., and Choi, Y.M. see Choi, Y.M.
Tseng, W.F., Christou, A., and Wilkins, B.R. see Christou, A.
Tserng, H.Q., Kim, B., Tiku, S.K., and Shih, H.D. see Kim, B.
Tserng, H.Q., and Kim, B. 110 GHz GaAs FET oscillator p178
Tserng, H.Q., and Saunier, P. 10–30 GHz monolithic GaAs travelling-wave divider/combiner p950
Tsividis, Y., and Shi, Bingxue Cancellation of distortion of any order in integrated active *RC* filters p132
Tsubokawa, M., Shibata, N., Kimura, Y., and Seikai, S. see Shibata, N.
Tsubokawa, M., Shibata, N., Ohashi, M., and Seikai, S. see Shibata, N.
Tsubokawa, M., Shibata, N., Seikai, S., and Higashi, T. Chromatic dispersion measurement of a single-mode fibre by improved optical heterodyne interferometry p781
Tsuchiya, T., Mochizuki, K., Fujise, M., Suzuki, H., Watanabe, M., and Koishi, M. see Mochizuki, K.
Tsutsumi, S., Kitazawa, I., Kimoto, H., and Kawata, O. Operation trial of 400 Mbit/s submarine optical transmission system p182
Tu, C.W., Shah, N.J., Pei, S.S., Hendel, R.H., and Tiberio, R.C. see Shah, N.J.
Tucholke, W., Arndt, F., and Wriedt, T. see Arndt, F.
Tucker, R.S., Burrus, C.A., and Bowers, J.E. see Burrus, C.A.
Tucker, R.S., Darcie, T.E., and Sullivan, G.J. see Darcie, T.E.
Tucker, R.S., Eisenstein, G., Korotky, S.K., Koren, U., Veselka, J.J., Stulz, L.W., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Tucker, R.S., Korotky, S.K., Eisenstein, G., Koren, U., Stulz, L.W., and Veselka, J.J. 20 GHz active mode-locking of a 1·55 μm InGaAsP laser p239
Tucker, R.S., Wood, T.H., Burrus, C.A., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Turchetti, C., and Bagheri, M. see Bagheri, M.
Turkman, R.I., Neelakantaswamy, P.S., and Sarkar, T.K. see Neelakantaswamy, P.S.
Tveten, A.B., Kersey, A.D., Dandridge, A., and Giallorenzi, T.G. see Kersey, A.D.
Twu, Y., Chen, K.-L., Dienes, A., Wang, S., and Whinnery, J.R. High-performance index-guided phase-locked semiconductor laser arrays p324

U

Uchida, Y., Okada, H., Watanabe, Y., and Matsumura, M. see Okada, H.
Uchiyama, S., and Iga, K. Two-dimensional array of GaInAsP/InP surface-emitting lasers p162
Udpikar, V., and Raina, J.P. Modified algorithm for block truncation coding of monochrome images p900
Ueda, H., Araki, K., and Takahashi, M. see Araki, K.
Uehara, S., Wakita, K., Kawamura, Y., Yoshikuni, Y., and Asahi, H. see Wakita, K.
Ueno, F., and Inoue, T. see Inoue, T.
Uenoyama, T., Tamura, A., Sakashita, T., Nishii, K., Tambo, T., Nagano, K., and Onuma, T. see Tamura, A.
Uesugi, N., Kuwaki, N., Ohashi, M., and Tanaka, C. see Kuwaki, N.
Uesugi, N., Noguchi, K., Shibata, N., Ishihara, K., and Negishi, Y. see Noguchi, K.
Uji, T., and Hayashi, J. High-power single-mode optical-fibre coupling to InGaAsP 1·3 μm mesa-structure surface-emitting LEDs p418
Ulbricht, L., Olshansky, R., Fye, D., Manning, J., Stern, M., Meland, E., Powazinik, W., and Lauer, R. see Olshansky, R.
Ulbricht, L.W., Teare, M.J., Olshansky, R., and Lauer, R.B. Loss-limited transmission at 140 Mbit/s over 30 km of single-mode fibre using a 1·3 μm LED p860
Ulgen, Y. 1/*f* noise in carbon resistors excited by pulse waveforms p485
Umehira, M., Kikuchi, H., Konaka, S., and Kawarada, K. see Kikuchi, H.
Umena, L., Canali, C., Fantini, F., and Zanoni, E. see Canali, C.
Unbehauen, R., and Cichocki, A. see Cichocki, A.
Upton, M.A.G., Mishra, U.K., Palmateer, S.C., Nightingale, S.J., and Smith, P.M. see Mishra, U.K.
Upton, S.A.J., and Allnutt, J.E. see Allnutt, J.E.
Usui, A., Matsumoto, T., Inai, M., Mito, I., Kobayashi, K., and Watanabe, H. Low threshold current operation of vapour-grown 650 nm-band InGaAsP/InGaP DH lasers p54
Utaka, K., Akiba, S., Sakai, K., and Matsushima, Y. Longitudinal-mode behaviour of λ/4-shifted InGaAsP/InP DFB lasers p367
Uttam, D. Measurement of intermodal delay in a dual-mode optical fibre p1031
Uwai, K., Mikami, O., and Susa, N. Effects of growth temperature and $[PH_3]/[In(C_2H_5)_3]$ on purity of epitaxial InP grown by metalorganic chemical vapour deposition p131

V

Vahldieck, R., and Hoefer, W.J.R. Computer-aided design of dielectric resonator filters in waveguide sections below cutoff p843
Vahrenkamp, R.P., Chang, M.F., Ryan, F.J., and Kirkpatrick, C.G. see Chang, M.F.
Valencic, V., Robert, J., Temes, G.C., Krummenacher, F., and Deval, P. see Robert, J.
Valenzuela, A., and Fernandez, A. see Fernandez, A.
Valley, G.C., Glass, A.M., and Klein, M.B. see Glass, A.M.
van Bochove, A.C., Jacobs, J.F., and Nijnuis, H.T. Improved Raman-fibre pulse delay measurement system p282
van Gijn, H.P., Pelgrom, M.J.M., Herrmann, J., and Vreeswijk, F.W.P. see Pelgrom, M.J.M.
van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Catthoor, F., Vandebroek, P., Slock, S., Claasen, T.A.C.M., and de Man, H. CORDIC-based HIFI digital FM demodulator algorithm for compact VLSI implementation p1227
van Paepegem, L., van Ginderdeuren, J., Lecocq, J., Govaerts, R., Catthoor, F., Vandebroek, P., Slock, S., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.
van der Ligt, J.W.C., and Jochem, C.M.G. see Jochem, C.M.G.
van der Walt, P.W. Efficient technique for solving nonlinear mixer pumping problem p899
van der Ziel, J.P., Mikulyak, R.M., and Logan, R.A. 7·5 km bidirectional single-mode optical-fibre link using dual-mode InGaAsP/InP 1·3 μm laser detectors p511
Van Zeghbroeck, B.J. Effect of magnetic field on n^+nn^+ GaAs ballistic diode d848
Vance, I.A.W., Harrold, S.J., and Haigh, D.G. see Harrold, S.J.
Vandebroek, P., van Ginderdeuren, J., van Paepegem, L., Lecocq, J., Govaerts, R., Catthoor, F., Slock, S., Claasen, T.A.C.M., and de Man, H. see van Ginderdeuren, J.
Vanoverschelde, A., Versnaeyen, C., Cappy, A., Salmer, G., and Schortgen, M. see Versnaeyen, C.
Varnham, M.P., Yataki, M.S., and Payne, D.N. see Yataki, M.S.
Vasanthavada, N.S. Group parity prediction scheme for concurrent testing of linear feedback shift registers p67
Vassallo, C. Rigorous and approximate calculations of antireflection layer parameters for travelling-wave diode laser amplifiers p333
Vaterkowski, J.L., Roques-Carmes, C., and Gagnepain, J.J. Fractal dimension of 1/*f*$^{\alpha}$ noises p688
Vaterkowski, J.L., and Mourey, M. see Mourey, M.
Vaudry, C., Loualiche, S., Parguel, V., L'Haridon, H., and Henry, L. see Loualiche, S.
Veilleux, C., Black, R.J., Bures, J., and Lapierre, J. see Black, R.J.
Veligdan, J.T. Au-Ga alloy film acoustic bonding p810
Venet, C., and Baudet, P. 2–20 GHz hybrid GaAs MESFET distributed amplifier p376
Venkatesh, S., and Culshaw, B. Optically activated vibrations in a micromachined silica structure p315
Vergos, J.C., Henry, M., Maheo, P., and Thebault, C. see Henry, M.
Vermeulen, W., Spaanenburg, L., and Pollok, W. see Spaanenburg, L.
Verriele, H., Maricot, S., Constant, M., Ramdani, J., and Decoster, D. Planar monolithic integration of a Schottky photodiode and a GaAs field-effect transistor for 0·8 μm-wavelength applications p878
Versnaeyen, C., Vanoverschelde, A., Cappy, A., Salmer, G., and Schortgen, M. Frequency dependence of source access resistance of heterojunction field-effect transistor p539
Veselka, J.J., Eisenstein, G., Korotky, S.K., Stulz, L.W., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Veselka, J.J., Eisenstein, G., Tucker, R.S., Korotky, S.K., Koren, U., Stulz, L.W., Jopson, R.M., and Hall, K.L. see Eisenstein, G.
Veselka, J.J., Tucker, R.S., Korotky, S.K., Eisenstein, G., Koren, U., and Stulz, L.W. see Tucker, R.S.
Veselka, J.J., and Alferness, R.C. see Alferness, R.C.
Viaro, U., Lepschy, A., and Mian, G.A. see Lepschy, A.
Vilar, E., and Banjo, O.P. see Banjo, O.P.
Vilar, E., and Moulsley, T.J. Probability density function of amplitude scintillations d620
Villotte, J.P., Seguinot, C., El Kadiri, M., Kennis, P., and Pribetich, P. see Seguinot, C.
Viswanathan, T.R., Nagaraj, K., Singhal, K., and Vlach, J. see Nagaraj, K.
Visweswaran, G.S., Jain, N.K., and Bhattacharyya, A.B. Quasistatic analysis of a dynamic sense amplifier p331
Vitanov, P.K., Asenov, A.M., Stefanov, E.N., and Antov, B.Z. see Asenov, A.M.
Vlach, J., Nagaraj, K., Singhal, K., and Viswanathan, T.R. see Nagaraj, K.
Vodhanel, R.S., Gimlett, J.L., Stern, M., Cheung, N.K., Chang, G.K., Leblanc, H.P., Shumate, P.W., and Suzuki, A. see Gimlett, J.L.
Vogt, H., Brockmann, W., and Weiss, R. see Brockmann, W.
Vold, P.J., Cirillo, N.C., Abrokwah, J.K., and Fraasch, A.M. see Cirillo, N.C.
Vreeswijk, F.W.P., Pelgrom, M.J.M., Herrmann, J., and van Gijn, H.P. see Pelgrom, M.J.M.
Vu, T.B., and Lo, K.W. Minimisation of phase error in digitally controlled attenuator p921
Vuchener, C., Dumas, J.M., Lecrosnier, D., and Paugam, J. see Dumas, J.M.

W

Waarts, R.G., and Braun, R.P. Crosstalk due to stimulated Brillouin scattering in monomode fibre p1114
Wada, O., Horimatsu, T., Iwama, T., Oikawa, Y., Touge, T., and Nakagami, T. see Horimatsu, T.
Wada, O., Nobuhara, H., and Fujii, T. see Nobuhara, H.
Wada, O., Sanada, T., Kuno, M., and Fujii, T. Very low threshold current ridge-waveguide AlGaAs/GaAs single-quantum-well lasers p1025
Wada, T., Matsumoto, K., Ogura, M., Yao, T., Hayashi, Y., Hashizume, N., Kato, M., Endo, T., and Inage, H. see Matsumoto, K.
Wagatsuma, Y., Yamanouchi, K., Takeuchi, M., and Meguro, T. see Yamanouchi, K.
Wah, T.K., and Haldar, M.K. Lewin's theory of waveguide coupling by rectangular slots, On p232
Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Ishikawa, H., Isozumi, S., Yamakoshi, S., and Imai, H. Low-threshold operation of 1·54 μm InGaAsP/InP DFB laser with second-order grating p321
Wakimoto, T., Akazawa, Y., Kikuchi, H., Kawarada, K., Kato, N., and Ohwada, K. see Akazawa, Y.
Wakita, K., Kawamura, Y., Asahi, H., and Kohzen, A. see Kawamura, Y.
Wakita, K., Kawamura, Y., Yoshikuni, Y., Asahi, H., and Uehara, S. High-speed long-wavelength optical modulation in InGaAs/InAlAs multiple quantum wells p951
Wakita, K., Kawamura, Y., Yoshikuni, Y., and Asahi, H. Electroabsorption on room-temperature excitons in InGaAs/InGaAlAs multiple quantum-well structures p338
Wakita, K., Kawamura, Y., Yoshikuni, Y., and Asahi, H. High-temperature excitons and enhanced electroabsorption in InGaAs/InAlAs multiple quantum wells p574
Wakita, K., Kawamura, Y., and Asahi, H. see Kawamura, Y.
Wakita, K., Kawamura, Y., and Asahi, H. Polarisation-dependent gain-current relationship in InGaAs/InGaAlAs/InAlAs SCH-MQW laser diodes p193
Walker, K.L., Olsson, N.A., Hegarty, J., Logan, R.A., Johnson, L.F., Cohen, L.G., Kasper, B.L., and Campbell, J.C. see Olsson, N.A.
Walker, K.L., and Whalen, M.S. see Whalen, M.S.
Walker, R.G. Simple and accurate loss measurement technique for semiconductor optical waveguides p581 e714
Walker, S.D., Bickers, L., and Blank, L.C. see Bickers, L.
Walling, R.H., Nelson, A.W., Wong, S., Regnault, J.C., Hobbs, R.E., and Murrell, D.L. see Nelson, A.W.

Walpita, L.M. Calculation of approximate propagation characteristics for any given two-dimensional optical waveguide p1074
Walters, L.C. Incoherent FSK p876
Walton, A.J., Holwill, R., and Robertson, J.M. Contact resistance of silicon-polysilicon interconnection for different current-flow geometries p13
Walton, A.J., McGillivray, I., and Robertson, J.M. see McGillivray, I.
Walton, A.J., Robertson, J.M., Holwill, R., and Moore, B. On-chip switching for DC parametric testing p422
Walton, A.J., Robertson, J.M., Holwill, R., and Moore, M.B. Standard instrument configuration for parametric testing p127
Wang, Chin-Liang, Wei, Che-Ho, and Chen, Sin-Horng Systolic encoder for fast waveform vector quantisation p682
Wang, J. New method to measure facet reflectivity of antireflection (AR)-coated laser diodes and LEDs p929
Wang, K.C., Asbeck, P.M., Miller, D.L., and Eisen, F.H. Voltage comparators implemented with GaAs/(GaAl)As heterojunction bipolar transistors p807
Wang, S., Twu, Y., Chen, K.-L., Dienes, A., and Whinnery, J.R. see Twu, Y.
Wang, S., and Chen, K.-L. see Chen, K.-L.
Wang, S.Y., Lin, S.H., Newton, S.A., and Houng, Y.M. see Lin, S.H.
Wang, Shyh, Minghuang Hong, J., Werner, M.J., and Wu, Yao-Hwa see Minghuang Hong, J.
Wang, Y.H., Chang, C.Y., Liu, W.C., and Liao, S.A. see Chang, C.Y.
Warnier, J., Geittner, P., Hagemann, H.J., Weling, F., and Wilson, H. see Geittner, P.
Washio, K., Aoki, Y., Kishida, S., and Minemura, K. see Aoki, Y.
Watanabe, E., and Nishihara, A. Digital lattice filters with reduced number of tap-multipliers p137 e550
Watanabe, H., Usui, A., Matsumoto, T., Inai, M., Mito, I., and Kobayashi, K. see Usui, A.
Watanabe, I., Takahashi, T., Sugiura, O., and Matsumura, M. see Takahashi, T.
Watanabe, K., and Chung, W.S. see Chung, W.S.
Watanabe, K., and Matsumoto, H. see Matsumoto, H.
Watanabe, M., Mochizuki, K., Fujise, M., Suzuki, H., Koishi, M., and Tsuchiya, T. see Mochizuki, K.
Watanabe, N., Hase, I., Kawai, H., Imanaga, S., and Kaneko, K. see Hase, I.
Watanabe, N., Kasahara, J., and Arai, M. see Kasahara, J.
Watanabe, S., Takakuwa, H., Kato, Y., and Mori, Y. see Takakuwa, H.
Watanabe, Y., Okada, H., Uchida, Y., and Matsumura, M. see Okada, H.
Watson, P.A., and Jain, Y.M. see Jain, Y.M.
Weale, J.R. Use of FFT in microstrip capacitance calculations p86
Wehr, H., and Weling, F. Transmission loss behaviour of PCVD fibres in H_2 atmosphere p852
Wei, Che-Ho, Wang, Chin-Liang, and Chen, Sin-Horng see Wang, Chin-Liang
Weidong, Kou New orthogonal transform for digital signal processing p666
Weiner, J.S., Wood, T.H., Burrus, C.A., Tucker, R.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., Gossard, A.C., and Wiegmann, W. see Wood, T.H.
Weingarten, K.J., Rodwell, M.J.W., Heinrich, H.K., Kolner, B.H., and Bloom, D.M. Direct electro-optic sampling of GaAs integrated circuits p765
Weiss, R., Brockmann, W., and Vogt, H. see Brockmann, W.
Welch, D.F., Scifres, D., Cross, P., Kung, H., Streifer, W., Burnham, R.D., and Yaeli, J. High-power (575 mW) single-lobed emission from a phased-array laser p603
Welford, D., and Alexander, S.B. see Alexander, S.B.
Welford, D., and Alexander, S.B. GaAlAs semiconductor diode laser 4-ary frequency shift key modulation at 100 Mbit/s p12
Weling, F. Non-Gaussian intensity distribution and dispersion compensation in single-mode fibres p811
Weling, F., Geittner, P., Hagemann, H.J., Warnier, J., and Wilson, H. see Geittner, P.
Weling, F., and Wehr, H. see Wehr, H.
Weller, C. Modulation scheme suitable for infra-red biotelemetry p601
Weller, J.F., Goldberg, L., Yurek, A.M., and Taylor, H.F. see Goldberg, L.
Wells, S.C. Efficient motion estimation for inter-frame video coding applications p289
Wen-Hong, Shi, and Jin-Guang, Chen see Jin-Guang, Chen
Wenke, G., and Saito, S. Stabilised PSK transmitter with negative electrical feedback to a semiconductor laser p653
Werner, M.J., Minghuang Hong, J., Wu, Yao-Hwa, and Wang, Shyh see Minghuang Hong, J.
Wessel, T, Dutta, N.K., Olsson, N.A., Logan, R.A., Yen, R., and Anthony, P.J. see Dutta, N.K.
West, C.L., and Lewis, M.F. see Lewis, M.F.
Westbrook, L.D. Dispersion of linewidth-broadening factor in 1·5 μm laser diodes p1018
Westbrook, L.D., and Bickers, L. see Bickers, L.
Westlake, H.J., Adams, M.J., and O'Mahony, M.J. Measurement of optical bistability in an InGaAsP laser amplifier at 1·5 μm p992
Westlake, H.J., and O'Mahony, M.J. Gain characteristics of a 1·5 μm DCPBH InGaAsP resonant optical amplifier p33
Whalen, M.S., Eisenstein, G., Jopson, R.M., Linke, R.A., Burrus, C.A., Koren, U., and Hall, K.L. see Eisenstein, G.
Whalen, M.S., and Walker, K.L. In-line optical-fibre filter for wavelength multiplexing p724
Whalen, M.S., and Wood, T.H. Effectively nonreciprocal evanescent-wave optical-fibre directional coupler p175
Whinnery, J.R., Twu, Y., Chen, K.-L., Dienes, A., and Wang, S. see Twu, Y.
White, I.H., Gallagher, D.F.G., Osiński, M., and Bowley, D. Direct streak-camera observation of picosecond gain-switched optical pulses from a 1·5 μm semiconductor laser p197 e359
White, I.H., Maclean, D., Carroll, J.E., and Plumb, R.G. see Maclean, D.
White, I.H., Osiński, M., and Gallagher, D.F.G. see Osiński, M.
White, T.K., Heatley, D.J.T., Lobbett, R.A., Farthing, A.J., Gilbert, K.I., Stallard, W.A., and Beaumont, A.R. see Heatley, D.J.T.
Whiteaway, J.E.A., Thompson, G.H.B., and Goodwin, A.R. Mode stability in real index-guided semiconductor laser arrays p1194
Whitt, S. Automatic timing alignment for regenerative repeaters p1122
Whybray, M., Cazin, J., and Pearson, D.E. see Cazin, J.
Wicks, G.W., Huang, J.C., Calawa, A.R., and Eastman, L.F. see Huang, J.C.
Wicks, G.W., Itoh, T., Griem, T., and Eastman, L.F. see Itoh, T.
Wiegmann, W., Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., and Gossard, A.C. see Wood, T.H.
Wilbrod, J.H., and Moulu, J. Jitter accumulation in optical transmission systems p740
Wilbur-Ham, M.C., Bearman, M.Y., and Billington, J. see Bearman, M.Y.
Wilkins, B.R., Christou, A., and Tseng, W.F. see Christou, A.
Wilkins, B.R., and Carter, P.M. see Carter, P.M.
Williams, J.R., France, P.W., Carter, S.F., and Moore, M.W. see France, P.W.
Williamson, A.G., and Parsons, J.D. Outage probability in a mobile radio system subject to fading and shadowing p622
Wilson, B. Floating FDNR employing a new CCII – conveyor implementation p996
Wilson, H., Geittner, P., Hagemann, H.J., Warnier, J., and Weling, F. see Geittner, P.
Wilson, M.J.D. Stereopsis with adaptive windows p695
Wilson, S.B., and Banks, P.J. see Banks, P.J.
Wilson, T., and Solymar, L. see Solymar, L.
Wilt, D.P., Bowers, J.E., Hemenway, B.R., Bridges, T.J., and Burkhardt, E.G. see Bowers, J.E.
Wilt, D.P., Bowers, J.E., Koch, T.L., Hemenway, B.R., Bridges, T.J., and Burkhardt, E.G. see Bowers, J.E.
Wilt, D.P., Lee, T.P., and Burrus, C.A. see Lee, T.P.
Winter, C.S., Tredgold, R.H., and El-Badawy, Z.I. see Tredgold, R.H.
Withers, M.J., Fong, K.S., and Pues, H.F. see Fong, K.S.
Wörner, K., Derksen, R.H., and Rein, H.-M. see Derksen, R.H.
Wolfe, S.V., Barnes, S.R., and Riley, S.P. see Barnes, S.R.
Wong, K.H.J., and Steele, R. ADPCM using vector predictor and forward adaptive quantiser with step-size prediction p74
Wong, S., Nelson, A.W., Devlin, W.J., Hobbs, R.E., and Lenton, C.G.D. see Nelson, A.W.
Wong, S., Nelson, A.W., Moss, R.H., Regnault, J.C., and Spurdens, P.C. see Nelson, A.W.
Wong, S., Nelson, A.W., Regnault, J.C., Hobbs, R.E., Murrell, D.L., and Walling, R.H. see Nelson, A.W.
Wong, S., Nelson, A.W., Ritchie, S., and Sargood, S.K. see Nelson, A.W.
Wong, S.L., and Salama, C.A.T. Technique for offset voltage cancellation in MOS operational amplifiers p389
Wong, W.C., and Nash, R. see Nash, R.
Wood, T.H., Burrus, C.A., Tucker, R.S., Weiner, J.S., Miller, D.A.B., Chemla, D.S., Damen, T.C., Gossard, A.C., and Wiegmann, W. 100 ps waveguide multiple quantum well (MQW) optical modulator with 10:1 on/off ratio p693
Wood, T.H., and Whalen, M.S. see Whalen, M.S.
Woods, G.S., and Bialkowski, M.E. see Bialkowski, M.E.
Woodward, J., and Hilton, K.P. see Hilton, K.P.
Wriedt, T., Arndt, F., and Tucholke, W. see Arndt, F.
Wright, G.T. Threshold modelling of MOSFETs for CAD of CMOS-VLSI p223
Wright, J.V. Variational analysis of fused tapered couplers p1064
Wu, Ja-Ling, and Pei, Soo-Chang see Pei, Soo-Chang
Wu, W.Q., Zhang, D., and Shui, Y.A. see Zhang, D.
Wu, X.S., Coldren, L.A., and Merz, J.L. Selective etching characteristics of HF for $Al_xGa_{1-x}As$/GaAs p558
Wu, Yao-Hwa, Minghuang Hong, J., Werner, M.J., and Wang, Shyh see Minghuang Hong, J.
Wyatt, R. Spectral linewidth of external cavity semiconductor lasers with strong, frequency-selective feedback p658
Wyatt, R., Matthews, M.R., Cameron, K.H., and Devlin, W.J. see Matthews, M.R.

Y

Yaeli, J., Welch, D.F., Scifres, D., Cross, P., Kung, H., Streifer, W., and Burnham, R.D. see Welch, D.F.
Yamada, J., Ohta, N., and Nishida, T. see Ohta, N.
Yamada, J., and Hagishima, K. see Hagishima, K.
Yamada, Y., Kawachi, M., Yasu, M., and Kobayashi, M. see Kawachi, M.
Yamada, Y., Terui, H., Kawachi, M., and Kobayashi, M. see Terui, H.
Yamaguchi, A., Kita, S., and Fujisawa, K. Noise comparison of biased and unbiased even-harmonic Josephson mixers p397
Yamaguchi, H., Imai, T., and Nosu, K. see Imai, T.
Yamaguchi, M., Kato, Y., Yanase, T., Kitamura, M., Nishi, K., Nishimoto, H., Mito, I., and Lang, R. see Kato, Y.
Yamaguchi, M., Kitamura, M., Murata, S., Mito, I., and Kobayashi, K. Wide range wavelength tuning in 1·3 μm DBR-DC-PBH-LDs by current injection into the DBR region p63
Yamaguchi, M., Yamazaki, S., Emura, K., Shikada, M., and Mito, I. see Yamazaki, S.
Yamakoshi, S., Wakao, K., Kihara, K., Tanahashi, T., Sudo, H., Kusunoki, T., Tabuchi, H., Ishikawa, H., Isozumi, S., and Imai, H. see Wakao, K.
Yamamoto, H., Asada, M., and Suematsu, Y. Electric-field-induced refractive index variation in quantum-well structure p579
Yamamoto, M., Ishikawa, M., Ohba, Y., Sugawara, H., and Nakanisi, T. see Ishikawa, M.
Yamamoto, Y., and Ogata, Y. Subjective evaluation of white noise effect on picture quality of improved television p651
Yamanaka, K., Kushibiki, J., and Chubachi, N. Anisotropy detection in hot-pressed silicon nitride by acoustic microscopy using the line-focus beam p165
Yamanishi, M., Fujii, H., and Suemune, U. see Fujii, H.
Yamanouchi, K., Chen, Z.H., and Meguro, T. New fabrication technique for single-phase unidirectional SAW filter (EMUDT) in UHF range p795
Yamanouchi, K., Takeuchi, M., Meguro, T., and Wagatsuma, Y. Positive/negative reflection-type SAW reflectors on ST-quartz using new fabrication technique p966
Yamashita, H., Suzuki, Y., and Shimada, J. see Suzuki, Y.
Yamashita, H., and Todokoro, Y. 50 nm line fabrication in 0·5 μm PMMA film on silicon substrates with a 20 kV e-beam p645
Yamashita, K., Kinoshita, T., Takasaki, Y., Maeda, M., Kaji, T., and Maeda, N. Wideband and high-gain negative-feedback AGC amplifier for high-speed lightwave digital transmission systems p419
Yamauchi, J., Nakano, H., and Tagami, H. see Nakano, H.
Yamazaki, S., Emura, K., Shikada, M., Komatsu, K., Mito, I., and Minemura, K. see Emura, K.
Yamazaki, S., Emura, K., Shikada, M., Yamaguchi, M., and Mito, I. Realisation of flat FM response by directly modulating a phase tunable DFB laser diode p283
Yanagawa, F., Mizutani, T., Arai, K., Oe, K., and Fujita, S. see Mizutani, T.
Yanagawa, F., Mizutani, T., and Fujita, S. see Mizutani, T.
Yanase, T., Kato, Y., Kitamura, M., Nishi, K., Yamaguchi, M., Nishimoto, H., Mito, I., and Lang, R. see Kato, Y.
Yanase, T., Sugou, S., Nishimoto, H., Kitamura, M., and Mito, I. see Sugou, S.
Yang, J.J., Hong, C.S., Niesen, J., and Figueroa, L. High-power operation of index-guided inverted channel substrate planar (ICSP) lasers p751
Yang, J.J.J., Craig, R.R., Casperson, L.W., Stafsudd, O.M., Evans, G.A., and Davidheiser, R.A. see Craig, R.R.
Yao, T., Matsumoto, K., Ogura, M., Wada, T., Hayashi, Y., Hashizume, N., Kato, M., Endo, T., and Inage, H. see Matsumoto, K.
Yariv, A., Lindsey, C., and Derry, P. see Lindsey, C.
Yariv, A., Salzman, J., and Lang, R. see Salzman, J.
Yasu, M., Kawachi, M., Yamada, Y., and Kobayashi, M. see Kawachi, M.
Yataki, M.S., Payne, D.N., and Varnham, M.P. All-fibre polarising beamsplitter p249
Yataki, M.S., Payne, D.N., and Varnham, M.P. All-fibre wavelength filters using concatenated fused-taper couplers p248
Yataki, M.S., Payne, F.P., and Hussey, C.D. see Payne, F.P.
Yen, R., Dutta, N.K., Wessel, T, Olsson, N.A., Logan, R.A., and Anthony, P.J. see Dutta, N.K.
Yevick, D., and Bardyszewski, W. see Bardyszewski, W.
Yevick, D., and Hermansson, B. New approach to

lossy optical waveguides p1029
Yip, G.L., Haruna, M., and Belanger, M. see Haruna, M.
Yokohama, I., Okamoto, K., and Noda, J. Fibre-optic polarising beam splitter employing birefringent-fibre coupler p415
Yokohama, I., Okamoto, K., and Noda, J. Optical circulator consisting of a YIG spherical lens, PANDA-fibre polarisers and a fibre-optic polarising beam splitter p746
Yokoshima, I., Inoue, T., and Sasaki, M. see Inoue, T.
Yokoyama, N., Imamura, K., Ohnishi, T., Shigaki, M., and Nishi, H. see Imamura, K.
Yokoyama, N., Muto, S., Imamura, K., Hiyamizu, S., and Nishi, H. see Muto, S.
Yoshida, H., Shinohara, S., Inoue, N., and Sumi, M. see Shinohara, S.
Yoshikai, N., Kawanishi, S., Suzuki, M., and Konaka, S. Monolithic integrated 4:1 multiplexer and demultiplexer operating up to 4·8 Gbit/s p149
Yoshikuni, Y., Matsuoka, T., and Motosugi, G. see Matsuoka, T.
Yoshikuni, Y., Motosugi, G., Kurumada, K., and Ikegami, T. Optimum operation of DFB lasers under chirped pulse transmission p476
Yoshikuni, Y., Motosugi, G., and Ikegami, T. see Motosugi, G.
Yoshikuni, Y., Wakita, K., Kawamura, Y., Asahi, H., and Uehara, S. see Wakita, K.
Yoshikuni, Y., Wakita, K., Kawamura, Y., and Asahi, H. see Wakita, K.
Yoshizawa, N., Ohnishi, M., Ishihara, K., and Negishi, Y. Water propagation blocking properties of submarine optical fibre cable p796
Young, N.D., and Hight, M.J. Automated Hall effect profiler for electrical characterisation of semiconductors p1044
Young, W.C., Gimlett, J.L., Stern, M., Curtis, L., Cheung, N.K., and Shumate, P.W. see Gimlett, J.L.
Young, W.C., Stern, M., Gimlett, J.L., Curtis, L., Cheung, N.K., Romeiser, M.B., and Shumate, P.W. see Stern, M.
Yuasa, T., Mannoh, M., Asakawa, K., Shinozaki, K., and Ishii, M. see Mannoh, M.
Yung, Chee-Fai, and Hwang, Chyi Algorithm for biased continued-fraction expansions of z-transfer functions p710
Yurek, A.M., Goldberg, L., Taylor, H.F., and Weller, J.F. see Goldberg, L.

Z

Zacharopoulos, V., Mantakas, C., and Dagakis, K. see Mantakas, C.
Zanoni, E., Canali, C., Fantini, F., and Umena, L. see Canali, C.
Zein El-Din, M., and Olcayto, E. see Olcayto, E.
Zhang, D., Shui, Y.A., and Wu, W.Q. Untuned low insertion loss surface leaky wave filter p559
Zhang, Q.J., Bandler, J.W., and Daijavad, S. see Bandler, J.W.
Zhang, Qi-tu, and Haykin, S. Adaptive radar detection p808
Zheng, Xue-Heng, and Snyder, A.W. see Snyder, A.W.
Zhou, H., Brown, R.C., and Clarricoats, P.J.B. see Brown, R.C.
Zich, R., Orta, R., and Tascone, R. see Orta, R.
Zinkiewicz, L.M., Morrison, C.B., Burghard, A., and Figueroa, L. see Morrison, C.B.
Zinkiewicz, L.M., Morrison, C.B., Niesen, J., and Figueroa, L. see Morrison, C.B.
Zinkiewicz, Z., Figueroa, L., Morrison, C., and Niesen, J. see Figueroa, L.
Zipfel, C.L., Saul, R.H., King, W.C., Olsson, N.A., Chin, B.H., Chin, A.K., Camlibel, I., and Minneci, G. see Saul, R.H.
Zipperian, T.E., and Drummond, T.J. Strained-quantum-well, modulation-doped, field-effect transistor p823
Zmudzinski, C.A., Mawst, L.J., Costrini, G., Givens, M.E., Emanuel, M.A., and Coleman, J.J. see Mawst, L.J.
Zyskind, J.L., Caneau, C., Srivastava, A.K., Dentai, A.G., and Pollack, M.A. see Caneau, C.

Subject index

ACOUSTIC MICROSCOPY

Anisotropy detection in hot-pressed silicon nitride by acoustic microscopy using the line-focus beam. K. Yamanaka, J. Kushibiki and N. Chubachi p165
Scanning acoustic microscopy using PVDF concave lenses. A. Labrèche, A. Beausejour, M. Castonguay and J.D.N. Cheeke p990

ACOUSTIC TRANSDUCERS

Acoustic resonator transducer for operation in air. J.D. Fox, B.T. Khuri-Yakub and G.S. Kino p694
Use of acoustic transducers as generalised electrical circuit elements. M.F. Lewis and C.L. West p1211

ACOUSTO-OPTICS

Au-Ga alloy film acoustic bonding. J.T. Veligdan p810
Polarisation effects in SAW acousto-optic interactions. S.W. Li and E. Bourkoff p968

ACTIVE FILTERS

Algorithm for multichannel LMS adaptive filtering. S.J. Elliott and P.A. Nelson p979
Cancellation of distortion of any order in integrated active *RC* filters. Y. Tsividis and Bingxue Shi p132
New switched-capacitor ladder filters. H.G. Dimopoulos p152
Novel higher-order active filter design using current conveyors. R. Senani p1055
RC-active biquad design by a Prolog program. J.C. Mouly, J. Neirynck and F. Tarpin p708

ADAPTIVE FILTERS

Rectangular-transform-based adaptive filter. G. Panda and P.M. Grant p301

AMPLIFIERS

2–20 GHz hybrid GaAs MESFET distributed amplifier. C. Venet and P. Baudet p376
8 GHz, 10 W solid-state power amplifier for microwave digital radio. T.C. Cheng p110
Gain measurements of InGaAsP 1·5 μm optical amplifiers. G. Eisenstein, R.M. Jopson, R.A. Linke, C.A. Burrus, U. Koren, M.S. Whalen and K.L. Hall p1076
Gigahertz band GaAs monolithic limiting amplifier. Y. Akazawa, T. Wakimoto, H. Kikuchi, K. Kawarada, N. Kato and K. Ohwada p790
Novel single-ended CMOS transconductance amplifiers. D. Ray and J. Gorecki p642
Quasistatic analysis of a dynamic sense amplifier. G.S. Visweswaran, N.K. Jain and A.B. Bhattacharyya p331
Rigorous and approximate calculations of antireflection layer parameters for travelling-wave diode laser amplifiers. C. Vassallo p333
Theoretical analysis of the nonlinear behaviour of a loss-free distributed amplifier. V. Paschalidou and C.S. Aitchison p108
Wideband and high-gain negative-feedback AGC amplifier for high-speed lightwave digital transmission systems. K. Yamashita, T. Kinoshita, Y. Takasaki, M. Maeda, T. Kaji and N. Maeda p419

ANALOGUE-DIGITAL CONVERSION

High-accuracy pipeline A/D convertor configuration. G.C. Temes p762
Improved switched-capacitor algorithmic analogue-to-digital convertor. H. Matsumoto and K. Watanabe p430
Modulation-doped FET DCML comparator. J. Berenz, K. Nakano, T. Sato and K. Fawcett p242
New proposal for a high-speed high-resolution analogue/digital convertor with reduced component count. G. Steinbach and U. Langmann p235
Stray-insensitive differential input stages for A/D convertors. D.K. Shum and G.C. Temes e216
Switched-capacitor noise-shaping coders of higher order for A/D conversion. M. Lamkemeyer, W. Brockherde, B.J. Hosticka and P. Richert p1039
Wide-margin Josephson-junction A/D convertor using redundant coding. S.V. Rylov and V.K. Semenov p829

ANNEALING

Improvement of InP MISFET characteristics using infra-red lamp annealing. Y. Hirota, M. Okamura, T. Hisaki and O. Mikami p686
Postmetallisation annealing of aluminium-silicon gate MOS capacitors. I. McGillivray, J.M. Robertson and A.J. Walton p973

ANTENNA ARRAYS

Broadband circularly polarised planar array composed of a pair of dielectric resonator antennas. M. Haneishi and H. Takazawa p437
Longitudinal coupling between elements in a disc-on-rod antenna array. H. Cory, C.G. Parini and A.D. Olver p112
Microstrip planar arrays with dielectric sphere overlays. C.M. Hall, G. Andrasic and J.R. James p356
Optimum monopulse linear array excitations using Zolotarev polynomials. D.A. McNamara p681
Proposal to use reflected signals through a single Butler matrix to produce multiple beams from a circular array antenna. J.R.F. Guy p209

ANTENNA FEEDERS

Compact, cranked-dipole feed for efficient illumination of small *F/D* paraboloids. J.A. Battilana p768

ANTENNA PHASED ARRAYS

Correcting phased arrays for multipath or for conformal topography. N.R.W. Long p639
Design of error tolerance of a phased array. J.K. Hsiao p834

ANTENNA RADIATION PATTERNS

Application of a six-port network to a near-field antenna measurement system. M.E. Bialkowski and G.S. Woods p1066
Design of error tolerance of a phased array. J.K. Hsiao p834
Dual reflector synthesis for specified aperture power and phase. J.R. Bergmann, R.C. Brown and P.J.B. Clarricoats p820
Fundamental surface-wave effects on microstrip antenna radiation. B. Roudot, C. Terret, J.P. Daniel, P. Pribetich and P. Kennis p1112
Numerical analysis of an axial-mode zigzag antenna. H. Nakano, H. Tagami and J. Yamauchi p606
Optimum shaping of reflector antennas for specified radiation patterns. R.C. Brown, P.J.B. Clarricoats and H. Zhou p1164

ANTENNAS

94 GHz dielectric slab-line leaky-wave antenna. B. Huder p536
Analysis of scattering by cylindrical struts of arbitrary cross-section. L.C. Da Silva and L.M.D. Henriques p42
Application of a six-port network to a near-field antenna measurement system. M.E. Bialkowski and G.S. Woods p1066
Broadband circularly polarised planar array composed of a pair of dielectric resonator antennas. M. Haneishi and H. Takazawa p437
Broadband conical microstrip antenna. L. Jeddari, K. Mahdjoubi, C. Terret and J.P. Daniel p896
Compact, cranked-dipole feed for efficient illumination of small *F/D* paraboloids. J.A. Battilana p768
Correcting phased arrays for multipath or for conformal topography. N.R.W. Long p639
Crosspolarisation and gain reduction due to sand or dust on microwave reflector antennas. S.O. Bashir and N.J. McEwan p379
Crosspolarisation due to radial field components in reflector antennas. R.I. Henderson p617
Design of error tolerance of a phased array. J.K. Hsiao p834
Dual reflector synthesis for specified aperture power and phase. J.R. Bergmann, R.C. Brown and P.J.B. Clarricoats p820
Dual-band microstrip antennas with monolithic reactive loading. S.E. Davidson, S.A. Long and W.F. Richards p936
Exact expression for stored energies in the cavity volume of microstrip antennas. K. Mahdjoubi and C. Terret p1221
Experimental determination of propagation parameters of a microstrip line with tuning septums. P. Pribetich, P. Kennis and C. Seguinot p745
Fundamental surface-wave effects on microstrip antenna radiation. B. Roudot, C. Terret, J.P. Daniel, P. Pribetich and P. Kennis p1112
Hankel transform domain analysis of complex resonant frequencies of double-tuned circular disc microstrip resonators/radiators. K. Araki, H. Ueda and M. Takahashi p277
Ionospheric and geographical effects on the choice of tactical and point-to-point HF antenna systems. B.A. Austin p1107
Longitudinal coupling between elements in a disc-on-rod antenna array. H. Cory, C.G. Parini and A.D. Olver p112
Measurements of crosspolarisation and gain reduction due to dust on a microwave reflector antenna. S.O. Bashir and N.J. McEwan p1141
Microstrip antenna aperture-coupled to a microstripline. D.M. Pozar p49
Microstrip disc antenna with short-circuited annular ring. C.J. Prior and P.S. Hall p719
Microstrip planar arrays with dielectric sphere overlays. C.M. Hall, G. Andrasic and J.R. James p356
Microwave technique for reflector antenna profile measurement. J.C. Bennett and D.G. Swan p560
New endfire radiator. C.A. King and D.A. Downs p1159
Numerical analysis of an axial-mode zigzag antenna. H. Nakano, H. Tagami and J. Yamauchi p606
Optimum monopulse linear array excitations using Zolotarev polynomials. D.A. McNamara p681
Optimum shaping of reflector antennas for specified radiation patterns. R.C. Brown, P.J.B. Clarricoats and H. Zhou p1164
Proposal to use reflected signals through a single Butler matrix to produce multiple beams from a circular array antenna. J.R.F. Guy p209
Radiometric measurement of antenna efficiency. J. Ashkenazy, E. Levine and D. Treves p111
Rectangular ring and H-shaped microstrip antennas—alternatives to rectangular patch antenna. V. Palanisamy and R. Garg p874
Reduction of sidelobe level by improved strut design for low *F/D* Cassegrain antennas. G. Schindler p203
Scattering from finite extent frequency selective surfaces illuminated by arbitrary sources. R. Orta, R. Tascone and R. Zich p100
Simple hybrid mode horn feed loaded with a dielectric cone. E. Lier and J.A. Aas p563
Simulation study of reactively steered adaptive arrays. R.J. Dinger p383
Substrate influence on flat folded dipole bandwidth. G. Dubost and A. Rabbaa p426
Theoretical investigation of a stripline planar antenna. Chen Jin-Guang and Shi Wen-Hong p674 e775
Tunable circular patch antennas. G.-L. Lan and D.L. Sengupta p1022
Wideband multilayer coaxial-fed microstrip antenna element. K.S. Fong, H.F. Pues and M.J. Withers p497

ATTENUATION

Attenuation in melting snow on microwave- and millimetre-wave terrestrial radio links. Y.M. Jain and P.A. Watson p68
Frequency and polarisation scaling of microwave attenuation during rainfall. R.S. Butler p826
Prediction of slant-path rain crosspolarisation discrimination ratio and phase using dual-polarisation radar data. J.P.V. Poiares Baptista and N.J. McEwan p460
Results of a 12 GHz radiometric experiment in Hong Kong. J.E. Allnutt and S.A.J. Upton p1217
Two-dimensional probability distribution of attenuation and depolarisation on earth-space path. H. Fukuchi p445
Variability of worst-month quotient *Q*. A. Mawira p1073

ATTENUATORS

Minimisation of phase error in digitally controlled attenuator. T.B. Vu and K.W. Lo p921

AUTOMATIC CONTROL

Two counterexamples to Šiljak's conjecture. A.A.K. Hasan and M.A.K. Hasan p233

AVALANCHE DIODES

Improved frequency response of InP/InGaAsP/InGaAs avalanche photodiodes with separate absorption, grading and multiplication regions. W.S. Holden, J.C. Campbell, J.F. Ferguson, A.G. Dentai and Y.K. Jhee p886
SAGM avalanche photodiode optical receiver for 2 Gbit/s and 4 Gbit/s. B.L. Kasper, J.C. Campbell, A.H. Gnauck, A.G. Dentai and J.R. Talman p982

BANDPASS FILTERS

Second-order switched-capacitor bandpass filter implemented in GaAs. S.J. Harrold, I.A.W. Vance and D.G. Haigh p494
Wide-bandwidth, sharp-cutoff bandpass filter for WDM transmission. J. Minowa and Y. Fujii p915

BIOMEDICAL ELECTRONICS

Applied potential tomography (APT) for noninvasive thermal imaging during hyperthermia treatment. J. Conway, M.S. Hawley, A.D. Seagar, B.H. Brown and D.C. Barber p836
Microstrip microslot antennas for biomedical applications: Frequency analysis of different parameters of this type of applicator. R. Ledee, M. Chive and M. Plancot p304
Modulation scheme suitable for infra-red biotelemetry. C. Weller p601
Retrieval of hyperthermia-induced temperature distribution from noisy microwave radiometric data. F. Bardati, M. Mongiardo and D. Solimini p800

BIPOLAR DEVICES

AlGaAs/GaAs heterojunction bipolar power transistors. B. Kim, H.Q. Tserng, S.K. Tiku and H.D. Shih p258
Four quadrant multiplier core with lateral bipolar transistor in CMOS technology. Z. Hong and H. Melchoir p72
Novel bipolar differential input/output current-controlled current source. C. Toumazou and F.J. Lidgey p199
PnP-type InP/InGaAsP/InP bipolar transistor. L.M. Su, H. Schroeter-Janssen, K.C. Li and N. Grote p989
Required grading length to eliminate the heterojunction spike in *npn* $In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As/InP$ bipolar transistors. N. Chand and H. Morkoç p841

BIREFRINGENCE

Low-temperature behaviour of high-birefringence fibres. M.J. Marrone and M.A. Davis p703
Polarisation splitters and birefringent couplers. A.W. Snyder and A. Stevenson p75
Polarising anisotropic fibres and their leaky modes. A.W. Snyder and A. Ankiewicz p1105
Radially anisotropic lightguide mode selector. R.J. Black, C. Veilleux, J. Bures and J. Lapierre p987

BROADCASTING

Software distribution via broadcast television signals. J. Billingsley and R.J. Billingsley p444

CABLES

Hydrogen evolution behaviour of silicone-coated optical fibres. S.R. Barnes, S.P. Riley and S.V. Wolfe p712
Single-mode optical-fibre ribbon cable. Y. Katsuyama, S. Hatano, K. Hogari, T. Matsumoto and T. Kokubun p134

CIRCUIT DESIGN

2–20 GHz hybrid GaAs MESFET distributed amplifier. C. Venet and P. Baudet p376
Two-dimensional impurity profiling near the mask edge using anodisation. C.M. Kyung p587

CIRCUIT THEORY AND DESIGN

1/*f* noise in carbon resistors excited by pulse waveforms. Y. Ulgen p485
Active-*RC*-synthesis for the simulation of a grounded inductor. W.S. Chung and K. Watanabe d276
Analogue four-quadrant CMOS multiplier with resistors. Z. Hong and H. Melchior p531
Calculation of mixing in nonlinear circuits. G.J. Rees p25
Circuit theoretic analysis of resonance transformers. J.A. Heinen and R.J. Niederjohn p866
Defect-tolerant active matrix circuit with duplicated data input routes for large liquid crystal display. S. Sakai, S. Kohda, C. Minagawa and K. Masuda p1051
Extended-range parallel-path *RC* oscillator synthesis: a state-variable approach. U.S. Ganguly p1048
Fast amplitude control in twin-*T* bridge *RC* oscillators. I.M. Filanovsky and G.J. Fortier p791
First-order SC filter section with interpolating output. S. Eriksson p221
Floating FDNR employing a new CCII− conveyor implementation. B. Wilson p996
Floating integrator technique for switched-capacitor circuits employing reset cycles. W.C. Black p1126
Floating-impedance convertors using current conveyors. C. Toumazou and F.J. Lidgey p640
General equation for quasisinusoidal oscillators. A. Buonomo, C. Di Bello and O. Greco p912
Generation of a class of two-variable impedance functions from their real part using a state-variable technique. S.S. Koonar and J.S. Sohal p1046
High-accuracy pipeline A/D convertor configuration. G.C. Temes p762
Homogeneous gyrator-chain networks. P. Kwa p1080
Improved switched-capacitor algorithmic analogue-to-digital convertor. H. Matsumoto and K. Watanabe p430
Integrable wide-dynamic-range negative resistance circuits. W. Surakampontorn p506
Maximum income approach to yield optimisation. L.J. Opalski and M.A. Styblinski p734
Method of simplified analysis of switched-capacitor networks. J.J. Mulawka and G.S. Moschytz p138
New *RC*-active oscillator configuration employing unity-gain amplifiers. R. Senani p889
New class of high-performance PTAT current sources. H.C. Nauta and E.H. Nordholt p384 d1070
New design of a dual-mode quartz crystal oscillator. M. Mourey and J.L. Vaterkowski p184
New positive-impedance convertor suitable for high-frequency application. J.M. Miguel p402
New proposal for a high-speed high-resolution analogue/digital convertor with reduced component count. G. Steinbach and U. Langmann p235
New wide-range fast-response analogue measurement of frequency. Gyu Hyeong Cho and Dong Hee Shin p1034
Novel bipolar differential input/output current-controlled current source. C. Toumazou and F.J. Lidgey p199
Novel higher-order active filter design using current conveyors. R. Senani p1055
Novel single-ended CMOS transconductance amplifiers. D. Ray and J. Gorecki p642
Novel switched-capacitor generalised integrator. A. Cichocki and R. Unbehauen p158
Offset and clock-feedthrough compensated switched-capacitor integrators. J. Robert, G.C. Temes, F. Krummenacher, V. Valencic and P. Deval p941
Parameter extraction on MOSFET transistors using a new optimised fit strategy. W. Maes, K. De Meyer and L. Dupas p490
Platinum intermetallic resistors for GaAs-based circuits. S. Tiwari and W.H. Price p429
Quasistatic analysis of a dynamic sense amplifier. G.S. Visweswaran, N.K. Jain and A.B. Bhattacharyya p331
Stray-insensitive differential input stages for A/D convertors. D.K. Shum and G.C. Temes e216
Switched-capacitor integrators with low finite-gain sensitivity. K. Haug, F. Maloberti and G.C. Temes p1156
Switched-capacitor lossless discrete differentiator with modified sample-and-hold sequence. Y. Horio and S. Mori p1036
Switched-capacitor noise-shaping coders of higher order for A/D conversion. M. Lamkemeyer, W. Brockherde, B.J. Hosticka and P. Richert p1039
Technique for offset voltage cancellation in MOS operational amplifiers. S.L. Wong and C.A.T. Salama p389
Transfer characteristic of a linear phase detector for variable phase. K. Holejko and J. Siuzdak p1012
Two new types of hazard in asynchronous circuits. R. Andrew p1001
Useful matrix theorem with applications to electronic circuit theory. M.C. Soper p649
Voltage comparators implemented with GaAs/(GaAl)As heterojunction bipolar transistors. K.C. Wang, P.M. Asbeck, D.L. Miller and F.H. Eisen p807
Wideband and high-gain negative-feedback AGC amplifier for high-speed lightwave digital transmission systems. K. Yamashita, T. Kinoshita, Y. Takasaki, M. Maeda, T. Kaji and N. Maeda p419

CLUTTER

Adaptive radar detection. Qi-tu Zhang and S. Haykin p808
CFAR problems in Weibull clutter. T. Bucciarelli p318
Detection of fixed targets embedded in log-normal clutter. T. Bucciarelli, G. Fedele and A. Forte p1140

CODES AND CODING

Automatic threshold-level control (ATC) for optimum decision operation in optical repeaters. N. Ohta, J. Yamada and T. Nishida p1148
Bandpass adder channel for multiuser (collaborative) coding schemes. A. Brine and P.G. Farrell p1030
Combinatorial codes. V.C. da Rocha p949
Computationally efficient modified Fano algorithm for sequential decoding. B.S. Katakol and S.L. Maskara p1109
Efficient modular design of *m*-out-of-2*m* TSC checkers, for $m = 2^K - 1$, $K > 2$. C. Efstathiou and C. Halatsis p1083
Fast algorithms for implementing RSA public key cryptosystem. S.B. Mohan and B.S. Adiga p761
How to forge RSA key certificates. J.A. Gordon p377
Modified Lu–Lee cryptosystem. B.S. Adiga and P. Shankar p794
New DC-free line code of minimum bandwidth with increased eye width. Je In Baek and Jae-Kyoon Kim p755 e1003
Performance of signals coded by Miller code in the presence of noise and interference. M.Č. Stefanović p667
Power spectra of *m*B1C codes for optical communication. G.S. Poo p788
Switched predictor adaptation of DPCM-AQB speech coder using an imbedded vector quantisation. V. Ramamoorthy p442
Systolic encoder for fast waveform vector quantisation. Chin-Liang Wang, Che-Ho Wei and Sin-Horng Chen p682

COMPARATORS (CIRCUITS)

Modulation-doped FET DCML comparator. J. Berenz, K. Nakano, T. Sato and K. Fawcett p242
Voltage comparators implemented with GaAs/(GaAl)As heterojunction bipolar transistors. K.C. Wang, P.M. Asbeck, D.L. Miller and F.H. Eisen p807

COMPUTER-AIDED DESIGN

Computer-aided design of dielectric resonator filters in waveguide sections below cutoff. R. Vahldieck and W.J.R. Hoefer p843
Computer-aided design of stray-insensitive second-order switched-capacitor filters. P.V. Ananda Mohan p635

COMPUTERS

Congestion avoidance in computer networks. M. Ilyas p1161
Fault detection and identification for reliable large-scale computing. F. Lombardi p50
Group parity prediction scheme for concurrent testing of linear feedback shift registers. N.S. Vasanthavada p67
Variable-length shift register. K. Nagaraj and K. Singhal p452

CONTROL THEORY

Algorithm for biased continued-fraction expansions of *z*-transfer functions. Chee-Fai Yung and Chyi Hwang p710
Alternative approach to Zakian's I_{MN} approximant in numerical initial-value problems. H. Inooka p1021
Approximation errors in the computation of Chebyshev expansion coefficients. A. Lepschy, G.A. Mian and U. Viaro p414
Improved method of controlling stepping motor switching angle. R. Danbury p432

Inversion algorithm to construct Routh approximants. E. Kahoraho, J.L. Gutierrez and S. Dormido p424
Model reduction by condensed continued-fraction method. T.N. Lucas p680
On common factors appearing in inversion of matrix transfer functions. M.B. Argoun p910
System reduction by continued-fraction expansion about $s = j\omega_0$. Y. Katsube, K. Horiguchi and N. Hamada p678
Two counterexamples to Šiljak's conjecture. A.A.K. Hasan and M.A.K. Hasan p233

CONVERTORS

Integrable wide-dynamic-range negative resistance circuits. W. Surakampontorn p506
New positive-impedance convertor suitable for high-frequency application. J.M. Miguel p402
New wide-range fast-response analogue measurement of frequency. Gyu Hyeong Cho and Dong Hee Shin p1034

COUPLED CIRCUITS

Economical design of SC coupled-biquad filters. S. Fotopoulos p472

CROSSPOLARISATION

Crosspolarisation due to radial field components in reflector antennas. R.I. Henderson p617

CROSSTALK

Polarisation splitters and birefringent couplers. A.W. Snyder and A. Stevenson p75

CRYSTALS

Effect of crystal orientation on plasma-grown oxides of silicon. K.J. Barlow, A. Kiermasz and W. Eccleston 142

CURRENT CONVEYORS

Allpass filters using a current-controlled current source. A. Fabre and P. Rochegude p1205
Floating FDNR employing a new CCII− conveyor implementation. B. Wilson p996
Floating-impedance convertors using current conveyors. C. Toumazou and F.J. Lidgey p640
Novel higher-order active filter design using current conveyors. R. Senani p1055

DATA COMPRESSION

Bandwidth and signal-data compression using maximum specified error as control. A.M. Sandman p673

DATA TRANSMISSION

Automatic timing alignment for regenerative repeaters. S. Whitt p1122
Bandwidth and signal-data compression using maximum specified error as control. A.M. Sandman p673
Flexible regenerator for digital transmission systems. L. Bickers p7
Further note on *m*B1C code spectra. J.J. O'Reilly p918
Performance of a Fourier transform data transmission system. D.G.W. Ingram and B.T. Tan p1014
Performance of signals coded by Miller code in the presence of noise and interference. M.Č. Stefanović p667
Power spectra of *m*B1C codes for optical communication. G.S. Poo p788
Simultaneous transmission of speech and data using an adaptive cancelling technique. R. Nash and W.C. Wong p784
Software distribution via broadcast television signals. J. Billingsley and R.J. Billingsley p444
Synthesis of bandlimited signals with independent amplitude and phase modulation. L.B. Lopes p1

DEMODULATORS AND DEMODULATION

CORDIC-based HIFI digital FM demodulator algorithm for compact VLSI implementation. J. van Ginderdeuren, L. van Paepegem, J. Lecocq, R. Govaerts, F. Catthoor, P. Vandebroek, S. Slock, T.A.C.M. Claasen and H. de Man p1227
Phase accuracy and stability of quadrature IF demodulators. H.D. Griffiths, N.R.W. Long and J.G. Schoenenberger p186
Real-time demodulation of signals using statistical methods. J.A.S. Pritchard p1183
SNR comparison between two designs of PFM demodulator used to demodulate PFM or FM. D.J.T. Heatley p214
Variable-delay, sine/cosine noncoherent detector. W. Rafferty and G.J. Saulnier p586

DETECTORS AND DETECTOR CIRCUITS

Transfer characteristic of a linear phase detector for variable phase. K. Holejko and J. Siuzdak p1012
Ultra-low-noise, high-impedance preamp for cryogenic detectors. E.R. Brown p417

DIELECTRIC WAVEGUIDES

Accurate resonant frequencies of cylindrical dielectric resonators using a simple analytical technique. R.K. Mongia and B. Bhat p479

DIELECTRICS AND DIELECTRIC DEVICES

Complex permittivity of a dielectric mixture: corrected version of Lichtenecker's logarithmic law of mixing. P.S. Neelakantaswamy, R.I. Turkman and T.K. Sarkar p270
Computer-aided design of dielectric resonator filters in waveguide sections below cutoff. R. Vahldieck and W.J.R. Hoefer p843
Coupled coplanar waveguide with anisotropic substrate. T. Kitazawa and Y. Hayashi p1197
Dielectric switching with memory in thin films of stearic acid. W. Fulop and R. Ginige p439
Microstrip termination effects on dielectric resonator filters. R.J. Trew, C.P. Hearn and E.S. Bradshaw p1015
Millimetre-wave dielectric waveguide ferrite phase shifter with longitudinal magnetisation. R. Glöckler p827
Phase velocity compensation in three-line coupled microstrip structure by using stratified dielectric substrate. B.J. Janiczak p145
Theoretical analysis of the coupling between whispering-gallery dielectric resonator modes and transmission lines. X.H. Jiao, P. Guillon and J. Obregon p88
Use of FFT in microstrip capacitance calculations. J.R. Weale p86

DIFFRACTION

Beam waves with sources at complex location. M. Hashimoto p1096

DIFFUSION

Temperature measurement technique using Pt diffusion into Au for ion-implanting wafers mounted on a spinning disc. S. Nakashima, S. Kanamori and K. Izumi p1229

DIGITAL CIRCUITS

Alpha-particle-induced failure modes in dynamic RAMs. P.M. Carter and B.R. Wilkins p38
High-speed GaAs SCFL divider. A. Tamura, T. Sakashita, T. Uenoyama, K. Nishii, T. Tambo, K. Nagano and T. Onuma p605
Switching circuits for yield enhancement of an array chip. W.R. Moore e124

DIGITAL COMMUNICATION SYSTEMS

Digital communication receiver with integrated MAP synchronisation and ML demodulation. E. Del Re and R. Fantacci p862

DIGITAL FILTERS

Digital lattice filters with reduced number of tap-multipliers. E. Watanabe and A. Nishihara p137 e550
Digital transversal filter architecture. A.J. Greenberger p86
FIR digital filters designed to a group-delay characteristic. E. Sharestani and L.G. Cuthbert p542
Quick stability test for 2-D digital filters. E. Olcayto and M. Zein El-Din p380
Reduction of computational cost in DFT implementation of FIR digital filters. G. Martinelli, G. Orlandi and P. Burrascano p364
Scaling-free McClellan transform for 2-D digital filters. D.T. Nguyen and M.N.S. Swamy p176
Three-dimensional systolic architecture for beamforming. W. Marwood and A.P. Clarke p212

DIGITAL INTEGRATED CIRCUITS

CORDIC-based HIFI digital FM demodulator algorithm for compact VLSI implementation. J. van Ginderdeuren, L. van Paepegem, J. Lecocq, R. Govaerts, F. Catthoor, P. Vandebroek, S. Slock, T.A.C.M. Claasen and H. de Man p1227
New test structure for VLSI self-test: the structured test register (STR). M. Paraskeva, W.L. Knight and D.F. Burrows p856

DIGITAL TRANSMISSION

Capacity of wideband TDMA digital mobile radio cellular schemes. P.A. Mathews p1189
Clock sensitivity reduction in echo cancellers. S.A. Cox p585
Flexible regenerator for digital transmission systems. L. Bickers p7
Measurement and prediction of digital radio performance on a long overwater path. J. Steel, J.C. Campbell and L. Davey p1212

DIODES

Surface-oriented low-parasitic Mott diode for EHF mixer applications. U.K. Mishra, S.C. Palmateer, S.J. Nightingale, M.A.G. Upton and P.M. Smith p652

DIPOLE ANTENNAS

Substrate influence on flat folded dipole bandwidth. G. Dubost and A. Rabbaa p426

DIRECTIONAL COUPLERS

Automatic manufacture of polished single-mode-fibre directional coupler. S.T. Nicholls p825
Design and performance of π guide directional couplers with very flat couplings. J. Rodriguez and A. Prieto p292
Effectively nonreciprocal evanescent-wave optical-fibre directional coupler. M.S. Whalen and T.H. Wood p175
New fabrication technique for single-phase unidirectional SAW filter (EMUDT) in UHF range. K. Yamanouchi, Z.H. Chen and T. Meguro p795
Simultaneous modulation and wavelength multiplexing with a tunable Ti: $LiNbO_3$ directional coupler filter. R.C. Alferness and J.J. Veselka p466

DISPERSION (WAVE)

Direct measurement of chromatic dispersion in single-mode fibres using streak camera. K. Mochizuki, M. Fujise, H. Suzuki, M. Watanabe, M. Koishi and T. Tsuchiya p524
Two-parameter characterisation of single-cladded, dispersion-shifted single-mode fibres. J.H. Povlsen p322

DISPLAY SYSTEMS

Defect-tolerant active matrix circuit with duplicated data input routes for large liquid crystal display. S. Sakai, S. Kohda, C. Minagawa and K. Masuda p1051
Effect of video amplifier rise time and CRT gamma on performance of a high-resolution monitor. M. Miessler p777

DISTORTION

Cancellation of distortion of any order in integrated active *RC* filters. Y. Tsividis and Bingxue Shi p132

Intermodulation and harmonic distortion in InGaAsP lasers. T.E. Darcie, R.S. Tucker and G.J. Sullivan p665

DOPING

Ultra-high doping levels of GaAs with beryllium by molecular beam epitaxy. J.L. Lievin and F. Alexandre p413

ELECTRO-OPTICS

Direct electro-optic sampling of GaAs integrated circuits. K.J. Weingarten, M.J.W. Rodwell, H.K. Heinrich, B.H. Kolner and D.M. Bloom p765
Simple and accurate loss measurement technique for semiconductor optical waveguides. R.G. Walker p581 e714

ELECTROMAGNETIC FIELD THEORY

Calculation of maximum bulk electric field in high-voltage diodes with small and intermediate negative bevel angles. W.J. Perold p1191

ELECTROMAGNETIC WAVES

Beam waves with sources at complex location. M. Hashimoto p1096
Effect of number of spectral terms on convergence of spectral-domain calculations of *E*-plane structures. S. El-Ghazaly and W.J.R. Hoefer p677
Fast algorithm for calculation of radiation integral and its application to plane-polar near-field/far-field transformation. J.C. Bennett p343
General solution for single-layer electromagnetic-wave absorber. A. Fernandez and A. Valenzuela p20
Propagation characteristics of broadside-coupled shielded image lines. L. Faltin p763
Relative convergence for moment-method solutions of integral equations of the first kind as applied to dichroic problems. N.V. Shuley p95
Uniform bend loss of the TE_{0q} mode in circular waveguides with small surface impedance and large surface admittance. M. Miyagi, K. Nii and S. Nishida p1009

ELECTRON BEAM LITHOGRAPHY

50 nm line fabrication in 0·5 μm PMMA film on silicon substrates with a 20 kV e-beam. H. Yamashita and Y. Todokoro p645

ELECTRON DEVICES

MOCVD-grown AlGaAs/GaAs hot-electron transistor with a base width of 30 nm. I. Hase, H. Kawai, S. Imanaga, K. Kaneko and N. Watanabe p757
Monitoring the final on-zone dynamics in TIL GTO thyristors. A.P. Silard p691
Registration mark detection for scanning ion beam lithography. A.F. Evason, J.R.A. Cleaver, P.J. Heard and H. Ahmed p629

ELECTRON MOBILITY

Tunnelling through very low barriers. P. Guéret, U. Kaufmann and E. Marclay p344

EPITAXY AND EPITAXIAL GROWTH

GaInAs PIN photodiodes grown by atmospheric-pressure MOVPE. A.W. Nelson, S. Wong, S. Ritchie and S.K. Sargood p838
Growth of thin-film lithium niobate by molecular beam epitaxy. R.A. Betts and C.W. Pitt p960
Low dark current InGaAs PIN photodiodes grown by molecular beam epitaxy. P. Cinguino, F. Genova, C. Rigo and A. Stano p139
Low-temperature epitaxial growth of GaAs on (100) silicon substrates. A. Christou, B.R. Wilkins and W.F. Tseng p406
Ultra-high doping levels of GaAs with beryllium by molecular beam epitaxy. J.L. Lievin and F. Alexandre p413

FAST FOURIER TRANSFORMS

Fast Hartley transform algorithm. H.-J. Meckelburg and D. Lipka p341

FERRITE DEVICES

Precise control of Reggia–Spencer phase shifter. P. Kölzer p868

FIBRE OPTICS

All-fibre sensing loop using pulse-modulated light-emitting diode. G. Adamovskv p922
All-fibre wavelength filters using concatenated fused-taper couplers. M.S. Yataki, D.N. Payne and M.P. Varnham p248
Directional-coupler filter using dissimilar optical fibres. D. Marcuse p726
Fibre optic interferometer using integrated optics. P.-O. Andersson, A. Persson, L. Thylén and G. Edwall p245
Fundamental limit to the performance of fibre-optic metallic glass DC magnetometers. M.D. Mermelstein p1178
Improved noninvasive 'fibredyne' highway based on polarimetric detection of strain in polarisation-maintaining fibres. J.P. Dakin and D.J. Pratt p1224
In-line optical-fibre filter for wavelength multiplexing. M.S. Whalen and K.L. Walker p724
OFDR diagnostics for fibre and integrated-optic systems. S.A. Kingsley and D.E.N. Davies p434
Semiconductor-platelet fibre-optic temperature sensor. M.M. Salour, G. Schoner, M. Kull and J.H. Bechtel p135
Variable-grating-mode liquid crystals for fibre-optic applications. G.L. Tangonan p701

FIELD-EFFECT DEVICES

Comparative reliability study of GaAs power MESFETs: mechanisms for surface-induced degradation and a reliable solution. J.M. Dumas, D. Lecrosnier, J. Paugam and C. Vuchener p115
Experimental gain and noise figure performance of distributed MESFET amplifiers. N. Nazoa-Ruiz and C.S. Aitchison p196

FIELD-EFFECT TRANSISTORS

110 GHz GaAs FET oscillator. H.Q. Tserng and B. Kim p178
Au/TiN/WSi-gate self-aligned GaAs MESFETs using rapid thermal annealing method. K. Imamura, T. Ohnishi, M. Shigaki, N. Yokoyama and H. Nishi p804
Complementary circuit with AlGaAs/GaAs heterostructure MISFETs employing high-mobility two-dimensional electron and hole gases. T. Mizutani, S. Fujita and F. Yanagawa p1116
Cryogenic operation of pseudomorphic AlGaAs/InGaAs single-quantum-well MODFETs. W.T. Masselink, A. Ketterson, J. Klem, W. Kopp and H. Morkoç p937
Degradation mechanisms induced by temperature in power MESFETs. C. Canali, F. Fantini, L. Umena and E. Zanoni p600
Enhanced performance of 2 μm *N*-MOSFETs in doubly recrystallised SOS films. R.L. Maddox and I. Golecki d1002
Enhanced performance of 2 μm *N*-MOSFETs in doubly recrystallised SOS films. R.L. Maddox and I. Golecki 154
Extremely uniform threshold voltage distribution of GaAs FET made on LEC-grown crystals. J. Kasahara, M. Arai and N. Watanabe p1040
Fabrication of n^+ ledge channel structure for GaAs FETs with a single lithography step. H.M. Macksey and R.D. Hudgens p955
Frequency dependence of source access resistance of heterojunction field-effect transistor. C. Versnaeyen, A. Vanoverschelde, A. Cappy, G. Salmer and M. Schortgen p539
GaAs FET as a light transducer. W.D. Edwards p399
Hot-hole-induced degradation in depletion-mode *n*-channel MOSFETs. I. Stoev, F. Bauer and P. Balk p30
Improvement of InP MISFET characteristics using infra-red lamp annealing. Y. Hirota, M. Okamura, T. Hisaki and O. Mikami p686
InGaAs junction FETs with frequency limit (MAG = 1) above 30 GHz. R. Schmitt and K. Heime p449
Influence of source-drain series resistance on MOSFET field-effect mobility. B. Cabon-Till, G. Ghibaudo and S. Cristoloveanu p457
Inversion-mode InP MISFET using a photochemical phosphorus nitride gate insulator. Y. Hirota, T. Hisaki and O. Mikami p690
Logic performance of Si_3N_4-*n* GaAs quasinormally off MISFETs. A.J. Harrison and J.G. Swanson p976
Modelling frequency dependence of output impedance of a microwave MESFET at low frequencies. C. Camacho-Peñalosa and C.S. Aitchison p528
Need for an explicit model describing MOS transistors in moderate inversion, The. M. Bagheri and C. Turchetti p873
Novel technique for measurement of MOSFET threshold voltage at very low channel currents. G.C. Holmes p544
Octave bandwidth microwave FET doubler. R. Gilmore p532
Optimised HEMT structure with an $Al_{0.45}Ga_{0.55}As$ spacer and an $Al_{0.20}Ga_{0.80}As$ doped region. J.C. Huang, G.W. Wicks, A.R. Calawa and L.F. Eastman p925
Planar monolithic integration of a Schottky photodiode and a GaAs field-effect transistor for 0·8 μm-wavelength applications. H. Verriele, S. Maricot, M. Constant, J. Ramdani and D. Decoster p878
Practical performance of a microwave distributed MESFET mixer. O.S.A. Tang and C.S. Aitchison p172
Self-aligned MESFETs by a dual-level double-lift-off substitutional gate (DDS) technique for high-speed low-power GaAs ICs. M.F. Chang, F.J. Ryan, R.P. Vahrenkamp and C.G. Kirkpatrick p354
Self-alignment a-Si FET by using a lift-off technique. H. Okada, Y. Uchida, Y. Watanabe and M. Matsumura p633
SiO_2/native-oxide double-gate InSb MOSFETs. T. Takahashi, O. Sugiura, I. Watanabe and M. Matsumura p545
Strained-quantum-well, modulation-doped, field-effect transistor. T.E. Zipperian and T.J. Drummond p823
SINFET: a new high conductance, high switching speed MOS-gated transistor, The. J.K.O. Sin and C.A.T. Salama p1134
Threshold modelling of MOSFETs for CAD of CMOS-VLSI. G.T. Wright p223
Threshold voltage adjustable process for self-aligned gate GaAs JFET. S.K. Tiku p1091
n^+ self-aligned-gate AlGaAs/GaAs heterostructure FET. T. Mizutani, K. Arai, K. Oe, S. Fujita and F. Yanagawa p638
p-channel GaAs SIS (semiconductor-insulator-semiconductor) FET. K. Matsumoto, M. Ogura, T. Wada, T. Yao, Y. Hayashi, N. Hashizume, M. Kato, T. Endo and H. Inage p580

FILTERS

All-fibre wavelength filters using concatenated fused-taper couplers. M.S. Yataki, D.N. Payne and M.P. Varnham p248
Allpass filters using a current-controlled current source. A. Fabre and P. Rochegude p1205
Cancellation of distortion of any order in integrated active *RC* filters. Y. Tsividis and Bingxue Shi p132
Computer-aided design of dielectric resonator filters in waveguide sections below cutoff. R. Vahldieck and W.J.R. Hoefer p843
Computer-aided design of stray-insensitive second-order switched-capacitor filters. P.V. Ananda Mohan p635
Correlation and aliasing in the noise-cancelling switched-capacitor (SC) filtering technique. A.G. Hall p932
Digital lattice filters with reduced number of tap-multipliers. E. Watanabe and A. Nishihara p137 e550
Digital transversal filter architecture. A.J. Greenberger p86
Economical design of SC coupled-biquad filters. S. Fotopoulos p472
Exact design of highpass switched-capacitor filters of the LDI type. J.T. Taylor and J. Mavor d643
FIR digital filters designed to a group-delay characteristic. E. Sharestani and L.G. Cuthbert p542
Fibre-optic Solc filter for use in Raman amplification of light. K. Okamoto, J. Noda and H. Miyazawa p90
Holographically formed, highly selective, infra-red filter in iron-doped lithium niobate. P. Mills and E.G.S. Paige p885
Hybrid VLSI architecture of FIR filters using residue number systems. M.A. Bayoumi, G.A. Jullien and W.C. Miller p358
Lowpass to highpass transformation in VIS switched-capacitor filters. F. Montecchi p146
New switched-capacitor ladder filters. H.G. Dimopoulos p152
Novel higher-order active filter design using current conveyors. R. Senani p1055
Offset-compensated bilinear SC filter of leapfrog type using a two-phase clock. S. Eriksson p1043
Quick stability test for 2-D digital filters. E. Olcayto and M. Zein El-Din p380
RC-active biquad design by a Prolog program. J.C. Mouly, J. Neirynck and F. Tarpin p708
Reduction of computational cost in DFT implementation of FIR digital filters. G. Martinelli, G. Orlandi and P. Burrascano p364
Reduction of finite-gain effect in switched-capacitor filters. K. Nagaraj, K. Singhal, T.R. Viswanathan and J. Vlach p644

SC filter circuit with decimation of sampling frequency. S. Eriksson p484
Scaling-free McClellan transform for 2-D digital filters. D.T. Nguyen and M.N.S. Swamy p176
Second-order switched-capacitor bandpass filter implemented in GaAs. S.J. Harrold, I.A.W. Vance and D.G. Haigh p494
Shunt-inductance-coupled waveguide filters with expanded second stopband. F. Arndt, J. Bornemann, C. Piontek and H. Schüler p238
Stray-free switched-capacitor building block that realises delay, constant multiplier, or summer circuit. A.E. Said p167 e550
Switched-capacitor ladder filters with zero worst-case sensitivity at reflection zeros. T. Inoue and F. Ueno p1000
Synthesis of highpass switched-capacitor LDI filters. H. Baher p79
Theoretical analysis of the coupling between whispering-gallery dielectric resonator modes and transmission lines. X.H. Jiao, P. Guillon and J. Obregon p88
Use of bilinear terminations for LDI-type SC ladder filters. P.V. Ananda Mohan p588

FOURIER ANALYSIS

Simple formulas for the characteristics of limiter phase detectors. J. Kováts p997

FOURIER TRANSFORMS

Performance of a Fourier transform data transmission system. D.G.W. Ingram and B.T. Tan p1014

FREQUENCY DIVIDERS

14 GHz band GaAs monolithic analogue frequency divider. T. Ohira, K. Araki, T. Tanaka and H. Kato p1057
Monolithic integration of a 5·3 GHz regenerative frequency divider using a standard bipolar technology. R.H. Derksen, H.-M. Rein and K. Wörner p1037
Phase-noise behaviour of frequency dividers implemented with GaAs heterojunction bipolar transistors. K.K. Agarwal, W.J. Thompson and P.M. Asbeck p1005

FREQUENCY MODULATION

Equalisation of semiconductor diode laser frequency modulation with a passive network. S.B. Alexander and D. Welford p361
Realisation of flat FM response by directly modulating a phase tunable DFB laser diode. S. Yamazaki, K. Emura, M. Shikada, M. Yamaguchi and I. Mito p283

FREQUENCY MULTIPLIERS

Octave bandwidth microwave FET doubler. R. Gilmore p532

FREQUENCY SHIFT KEYING

Diversity improvement for *M*-ary noncoherent frequency shift keying in impulsive reverberation noise. A.M. Maras, H.D. Davidson and A.G.J. Holt p944
Effect of correlated noise on error probability of binary frequency shift keying with limiter-discriminator-detector and narrowband filters. I. Korn p481
Incoherent FSK. L.C. Walters p876
Unresolved carrier phase ambiguity and trellis decoding of CPFSK signals. N. Ekanayake p1165

GALLIUM ARSENIDE

2–20 GHz hybrid GaAs MESFET distributed amplifier. C. Venet and P. Baudet p376
New $v(E)$ relationship for GaAs. Y.-K. Feng p453 e824
Se^+ ion implantation into encapsulated GaAs. M.A. Shahid, R. Gwilliam and B.J. Sealy p729

GLASS

Fabrication and characterisation of fluoride-glass single-mode fibres. M. Monerie, F. Alard and G. Maze p1179
Fabrication of long single-mode and multimode fluoride glass fibres by the double-crucible technique. H. Tokiwa, Y. Mimura, T. Nakai and O. Shinbori p1131
Reduction of absorption loss due to iron ions in fluoride glasses. T. Nakai, Y. Mimura, H. Tokiwa and O. Shinbori p625

GUNN DEVICES AND EFFECTS

Current instabilities in $Ga_{0.47}In_{0.53}As$ transferred-electron devices. W. Kowalsky and A. Schlachetzki p1192

GYRATORS

Homogeneous gyrator-chain networks. P. Kwa p1080

HOLOGRAPHY

Holographically formed, highly selective, infra-red filter in iron-doped lithium niobate. P. Mills and E.G.S. Paige p885

IMAGE PROCESSING

Detection of binary images in film grain noise. A.S. Tavildar, S.N. Gupta and H.M. Gupta p260
Efficient motion estimation for interframe video coding applications. S.C. Wells p289
Modified algorithm for block truncation coding of monochrome images. V. Udpikar and J.P. Raina p900
Progressive picture transmission using interleaved blocks. J. Cazin, D.E. Pearson and M. Whybray p1181
Shape adaptive activity controlled multistage gain shape vector quantisation of images. D. Allott and R.J. Clarke p393
Stereopsis with adaptive windows. M.J.D. Wilson p699
Sum of absolute grey level differences: an edge-preserving smoothing approach. A. de Albuquerque Araujo p1219

IMPATTS

Fundamental high-frequency performance limit for impatt mode operation. P.A. Blakey and R.K. Froelich p28
High-efficiency monolithic GaAs impatt diodes. B. Bayraktaroglu and H.D. Shih p259
High-power pulsed beam-lead impatt diodes for millimetre waves. R. Pierzina and J. Freyer p913
Intermodulation distortion improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p190
Linearity and efficiency improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p189

INFORMATION THEORY

ADPCM using vector predictor and forward adaptive quantiser with step-size prediction. K.H.J. Wong and R. Steele p74
Modified Lu–Lee cryptosystem. B.S. Adiga and P. Shankar p794

INFRA-RED DETECTORS

Nonequilibrium devices for infra-red detection. T. Ashley and C.T. Elliott p451

INSTRUMENTATION

High-performance thin-film barretter mount for power measurement in W-band. T. Inoue, I. Yokoshima and M. Sasaki p170
Standard instrument configuration for parametric testing. A.J. Walton, J.M. Robertson, R. Holwill and M.B. Moore p127

INTEGRATED CIRCUITS

Contact resistance of silicon-polysilicon interconnection for different current-flow geometries. A.J. Walton, R. Holwill and J.M. Robertson p13
Direct electro-optic sampling of GaAs integrated circuits. K.J. Weingarten, M.J.W. Rodwell, H.K. Heinrich, B.H. Kolner and D.M. Bloom p765
Equivalent circuit of microstrip spiral inductor circuit generation by computer. A.J. Baden Fuller and A.M. Parker p279
New test structure for VLSI self-test: the structured test register (STR). M. Paraskeva, W.L. Knight and D.F. Burrows p856
On-chip switching for DC parametric testing. A.J. Walton, J.M. Robertson, R. Holwill and B. Moore p422
Optically induced latch-up and other effects in CMOS UVEPROMs. D.J. Hinds and J.C.D. Stokoe p553
Via holes for GaAs MMICs fabricated using reactive ion etching. K.P. Hilton and J. Woodward p962
Waveguide *E*-plane integrated-circuit diplexer. F. Arndt, J. Bornemann, D. Grauerholz, D. Fasold and N. Schroeder p615

INTEGRATED OPTICS

1·3 μm InP/InGaAsP channelled-substrate buried-heterostructure laser monolithically integrated with a photodetector. L.A. Koszi, A.K. Chin, B.P. Segner, T.M. Shen and N.K. Dutta p1209
Fibre optic interferometer using integrated optics. P.-O. Andersson, A. Persson, L. Thylén and G. Edwall p245
GRIN-SCH SQW laser/photodiode array by improved microcleaved facet process. H. Nobuhara, O. Wada and T. Fujii p718
Growth of thin-film lithium niobate by molecular beam epitaxy. R.A. Betts and C.W. Pitt p960
Holographically formed, highly selective, infra-red filter in iron-doped lithium niobate. P. Mills and E.G.S. Paige p885
Hybrid integration of a laser diode and high-silica multimode optical channel waveguide on silicon. H. Terui, Y. Yamada, M. Kawachi and M. Kobayashi p646
Integrated-optic device for high-speed databuses. L. Thylén, A. Djupsjöbacka, M. Janson and W. Döldissen p491
Novel $LiNbO_3$ integrated-optic component for coherent optical heterodyne detection. W.A. Stallard, T.G. Hodgkinson, K.R. Preston and R.C. Booth p1077
Novel type of broadband travelling-wave integrated-optic modulator. A. Djupsjöbacka p908
OFDR diagnostics for fibre and integrated-optic systems. S.A. Kingsley and D.E.N. Davies p434
Silicon optical printed circuit board for three-dimensional integrated optics. Y. Kokubun, T. Baba and K. Iga p508
Simple and accurate loss measurement technique for semiconductor optical waveguides. R.G. Walker p581 e714
Simple technique for measuring attenuation of integrated optical waveguides. N. Noursharghi, E.M. Starr, N.I. Fox and S.G. Jones p818
Single-crystal silicon: a new material for 1·3 and 1·6 μm integrated-optical components. R.A. Soref and J.P. Lorenzo p953

INTERFEROMETERS

Fibre optic interferometer using integrated optics. P.-O. Andersson, A. Persson, L. Thylén and G. Edwall p245
Intermodulation and harmonic distortion in InGaAsP lasers. T.E. Darcie, R.S. Tucker and G.J. Sullivan p665
Novel method for instantaneous determination of frequency of transmitters over wide bandwidths. N. Fourikis p879
Optical-fibre Fabry-Perot interferometer with finesse of 300. J. Stone p504

INVERTERS

Double heterojunction GaAs/GaAlAs I^2L inverter. P. Narozny and H. Beneking p328

ION BEAMS

Registration mark detection for scanning ion beam lithography. A.F. Evason, J.R.A. Cleaver, P.J. Heard and H. Ahmed p629

ION IMPLANTATION

Se^+ ion implantation into encapsulated GaAs. M.A. Shahid, R. Gwilliam and B.J. Sealy p729
Shallow p^+ layers in $In_{0.53}Ga_{0.47}As$ by Hg implantation. H. L'Haridon, P.N. Favennec, M. Salvi and M. Razeghi p122

ISOLATORS

Coupled-slot fin-line isolators. D.B. Sillars and L.E. Davis p97

JITTER

Jitter accumulation in optical transmission systems. J.H. Wilbrod and J. Moulu p740

Systematic jitter suppression by pattern inversion. M. Amemiya, Y. Hayashi and T. Ito p709

JOSEPHSON JUNCTIONS

Three-terminal operation of InAs-coupled Josephson devices by quasiparticle injection. K. Inoue and T. Kawakami p918

Wide-margin Josephson-junction A/D convertor using redundant coding. S.V. Rylov and V.K. Semenov p829

LASERS AND LASER APPLICATIONS

15 GHz direct modulation bandwidth of vapour-phase regrown 1·3 μm InGaAsP buried-heterostructure lasers under CW operation at room temperature. C.B. Su, V. Lanzisera, R. Olshansky, W. Powazinik, E. Meland, J. Schlafer and R.B. Lauer p577

1·3 μm InGaAsP index-guided multirib waveguide laser array. N.K. Dutta, T. Cella, S.G. Napholtz and D.C. Craft p326

1·5 μm phase-shifted DFB laser by EBX and mass-transport technique. S. Koentjoro, N. Eda, K. Furuya and Y. Suematsu p525

20 GHz active mode-locking of a 1·55 μm InGaAsP laser. R.S. Tucker, S.K. Korotky, G. Eisenstein, U. Koren, L.W. Stulz and J.J. Veselka p239

35 GHz microwave signal generation with an injection-locked laser diode. L. Goldberg, A.M. Yurek, H.F. Taylor and J.F. Weller p814

68·3 km transmission with 1·37 Tbit km/s capacity using wavelength division multiplexing of ten single-frequency lasers at 1·5 μm. N.A. Olsson, J. Hegarty, R.A. Logan, L.F. Johnson, K.L. Walker, L.G. Cohen, B.L. Kasper and J.C. Campbell p105

Active mode-locking of an InGaAsP 1·55 μm laser in a fibre resonator with an integrated single-mode-fibre output port. G. Eisenstein, R.S. Tucker, S.K. Korotky, U. Koren, J.J. Veselka, L.W. Stulz, R.M. Jopson and K.L. Hall p173

Analysis of transverse modes of phased-locked multistripe lasers. H. Fujii, U. Suemune and M. Yamanishi p713

Bandwidth-limited picosecond pulse generation by hybrid mode-locking in a ring cavity GaAlAs laser. J. McInerney, L. Reekie and D.J. Bradley p117

CW operation at −10°C for InGaAlP visible light laser diodes grown by MOCVD. M. Ishikawa, Y. Ohba, H. Sugawara, M. Yamamoto and T. Nakanisi p1084

CW operation of 1·5 μm InGaAsP/InP BH lasers with a reactive-ion-etched facet. H. Saito, Y. Noguchi and H. Nagai p748

CW operation of a cleaved-coupled-cavity array of phase-locked GaAlAs lasers. R.K. DeFreez, T.L. Paoli, M. Bernstein and R.D. Burnham p241

CW pumped Raman preamplifier in a 45 km-long fibre transmission system operating at 1·5 μm and 1 Gbit/s. J. Hegarty, N.A. Olsson and L. Goldner p290

Calculated field spectra of semiconductor lasers near threshold. K. Kikuchi p705

Characteristics of linewidth narrowing of a 1·5 μm DFB laser with a short GRIN-rod external coupled cavity. T.P. Lee, S.G. Menocal and H. Matsumura p655

Complementary self-aligned laser by metalorganic chemical vapour deposition. L.J. Mawst, G. Costrini, C.A. Zmudzinski, M.E. Givens, M.A. Emanuel and J.J. Coleman p903

Criteria for design of single-lobe phased-array diode lasers. W. Streifer, A. Hardy, R.D. Burnham, R.L. Thornton and D.R. Scifres p505

Delay-triggered optical switching in twin-stripe IRW lasers. D. Maclean, I.H. White, J.E. Carroll and R.G. Plumb p999

Dependence of chirping on cavity separation in two-section coupled-cavity lasers. L.A. Coldren, G.D. Boyd and C.A. Burrus p527

Dependence of linewidth enhancement factor α on waveguide structure in semiconductor lasers. K. Furuya p200

Dependence of semiconductor laser linewidth on measurement time: evidence of predominance of 1/*f* noise. K. Kikuchi and T. Okoshi p1011

Direct frequency modulation of a semiconductor laser by acoustic waves. P.A. Greenhalgh and P.A. Davies p246 e359

Direct frequency modulation of a semiconductor laser by surface acoustic waves. P.A. Greenhalgh and P.A. Davies p598

Dispersion of linewidth-broadening factor in 1·5 μm laser diodes. L.D. Westbrook p1018

Double heterostructure and multiquantum-well lasers at 1·5–1·7 μm grown by atmospheric pressure MOVPE. A.W. Nelson, R.H. Moss, J.C. Regnault, P.C. Spurdens and S. Wong p329

Dynamic line broadening of semiconductor lasers modulated at high frequencies. J. Buus p129

Effective screen for fast aging InGaAsP BH lasers using electrical derivatives. M.M. Choy and C.E. Barnes p846

Efficiency of unstable resonator semiconductor lasers. J. Salzman, R. Lang and A. Yariv p821

Etched-coupled-cavity InGaAsP/InP lasers. K.-L. Chen and S. Wang p94

Etched-mirror unstable-resonator semiconductor lasers. R.R. Craig, L.W. Casperson, O.M. Stafsudd, J.J.J. Yang, G.A. Evans and R.A. Davidheiser p62

Fabrication and performance characteristics of InGaAsP ridge-guide distributed-feedback multiquantum-well lasers. N.K. Dutta, T Wessel, N.A. Olsson, R.A. Logan, R. Yen and P.J. Anthony p571

Fabrication of thin silicon-on-insulator films using laser recrystallisation. J.P. Colinge, H.K. Hu and S. Peng p1102

Frequency chirp reduction in a 2·2 Gbit/s directly modulated InGaAsP semiconductor laser by CW injection. C. Lin, J.K. Andersen and F. Mengel p80

Fundamental characteristics of an InGaAsP/InP laser transistor. J. Shibata, Y. Mori, Y. Sasai, N. Hase, H. Serizawa and T. Kajiwara p98

GaAlAs semiconductor diode laser 4-ary frequency shift key modulation at 100 Mbit/s. D. Welford and S.B. Alexander p12

GaInAsP/InP surface emitting laser ($\lambda = 1{\cdot}4$ μm, 77 K) with heteromultilayer Bragg reflector. A. Chailertvanitkul, K. Iga and K. Moriki p303

Gain characteristics of a 1·5 μm DCPBH InGaAsP resonant optical amplifier. H.J. Westlake and M.J. O'Mahony p33

Gain saturation effects in supermodes of phase-locked semiconductor laser arrays. J. Katz and W.K. Marshall p974

High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers. J.E. Bowers, T.L. Koch, B.R. Hemenway, D.P. Wilt, T.J. Bridges and E.G. Burkhardt p297

High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers. J.E. Bowers, T.L. Koch, B.R. Hemenway, D.P. Wilt, T.J. Bridges and E.G. Burkhardt p392

High-performance DC-PBH lasers at 1·52 μm by a hybrid MOVPE/LPE process. A.W. Nelson, S. Wong, J.C. Regnault, R.E. Hobbs, D.L. Murrell and R.H. Walling p493

High-performance index-guided phase-locked semiconductor laser arrays. Y. Twu, K.-L. Chen, A. Dienes, S. Wang and J.R. Whinnery p324

High-power (575 mW) single-lobed emission from a phased-array laser. D.F. Welch, D. Scifres, P. Cross, H. Kung, W. Streifer, R.D. Burnham and J. Yaeli p603

High-power operation of index-guided inverted channel substrate planar (ICSP) lasers. J.J. Yang, C.S. Hong, J. Niesen and L. Figueroa p751

Improved high-power twin-channel laser with blocking layer. C.B. Morrison, L.M. Zinkiewicz, A. Burghard and L. Figueroa p337

Improved high-temperature performance of 1·52 μm InGaAsP laser diodes fabricated by two-step VPE and LPE. Y. Kato, T. Yanase, M. Kitamura, K. Nishi, M. Yamaguchi, H. Nishimoto, I. Mito and R. Lang p293

Improvement of side-mode suppression ratio of a single-mode SCC semiconductor laser. Zhou Bingkun, Wang Jianglin and Zhang Hanyi p877

InGaAsP/InP double heterostructure lasers grown by atmospheric-pressure MOCVD. R.D. Dupuis, H. Temkin and L.C. Hopkins p60

Influence of amplitude-phase coupling on the injection locking bandwidth of a semiconductor laser. P. Gallion and G. Debarge p264

Influence of doping on threshold current of semiconductor lasers. A. Haug p792

Intermodulation and harmonic distortion in InGaAsP lasers. T.E. Darcie, R.S. Tucker and G.J. Sullivan p665

Linewidth measurements of a 1·5 μm range DFB laser. M. Fujise and M. Ichikawa p231

Longitudinal-mode behaviour of λ/4-shifted InGaAsP/InP DFB lasers. K. Utaka, S. Akiba, K. Sakai and Y. Matsushima p367

Low threshold GaAs/GaAlAs BH lasers with ion-beam-etched mirrors. N. Bouadma, J. Riou and A. Kampfer p566

Low threshold current operation of vapour-grown 650 nm-band InGaAsP/InGaP DH lasers. A. Usui, T. Matsumoto, M. Inai, I. Mito, K. Kobayashi and H. Watanabe p54

Low-reflectivity semiconductor laser amplifier with 20 dB fibre-to-fibre gain at 1500 nm. M.J. O'Mahony, I.W. Marshall, W.J. Devlin and J.C. Regnault p501

Low-threshold 1·3 μm GaInAsP/InP lasers grown by atmospheric-pressure MOVPE. B. Rose, P. Devoldere, A. Mircea, D. Robein and M. Trotte p521

Low-threshold InGaAsP buried-crescent stop-cleaved lasers for monolithic integration. A. Antreasyan, C.J. Chen and R.A. Logan p404

Low-threshold MBE GaAs/AlGaAs quantum well lasers with dry-etched mirrors. M. Mannoh, T. Yuasa, K. Asakawa, K. Shinozaki and M. Ishii p769

Low-threshold operation of 1·54 μm InGaAsP/InP DFB laser with second-order grating. K. Wakao, K. Kihara, T. Tanahashi, H. Sudo, T. Kusunoki, H. Tabuchi, H. Ishikawa, S. Isozumi, S. Yamakoshi and H. Imai p321

Measured spectral linewidth of variable-gap cleaved-coupled-cavity lasers. T.P. Lee, C.A. Burrus and D.P. Wilt p53

Measurement of Gaussian beam diameter using Ronchi rulings. M.A. Karim p427

Measurement of field spectra of 1·3 μm InGaAsP DFB lasers. K. Kikuchi and T. Okoshi p217

Measurement of nonlinear gain from FM modulation index of InGaAsP lasers. C.B. Su, V. Lanzisera and R. Olshansky p893

Measurement of optical bistability in an InGaAsP laser amplifier at 1·5 μm. H.J. Westlake, M.J. Adams and M.J. O'Mahony p992

Millimetre-wave response of InGaAsP lasers. J.E. Bowers p1195

Mode selectivity in DFB lasers with cleaved facets. J. Buus p179

Narrow spectral linewidth characteristics of monolithic integrated-passive-cavity InGaAsP/InP semiconductor lasers. T. Fujita, J. Ohya, K. Matsuda, M. Ishino, H. Sato and H. Serizawa p374

Neodymium-doped silica single-mode fibre lasers. R.J. Mears, L. Reekie, S.B. Poole and D.N. Payne p738

New automatic control of returned light into frequency stabilised semiconductor laser. S. Shinohara, N. Inoue, H. Yoshida and M. Sumi p205

Novel measuring method for spectral linewidth of laser diodes using fibre-optic ring resonator. S. Tai, K. Kyuma and T. Nakayama p91

Optimum operation of DFB lasers under chirped pulse transmission. Y. Yoshikuni, G. Motosugi, K. Kurumada and T. Ikegami p476

Packaged frequency-stable tunable 20 kHz linewidth 1·5 μm InGaAsP external cavity laser transmission systems. M.R. Matthews, K.H. Cameron, R. Wyatt and W.J. Devlin p113

Performance of AFC for phase noise reduction of optical sources. B. Glance p994

Photochemical vapour deposition of phosphorus nitride using an ArF excimer laser. Y. Hirota and O. Mikami p77

Picosecond semiconductor laser radar with optical amplifier. A. Alping, P. Andersson and S.T. Eng p126

Polarisation-dependent gain-current relationship in InGaAs/InGaAlAs/InAlAs SCH-MQW laser diodes. K. Wakita, Y. Kawamura and H. Asahi p193

Reduction of laser chirp in 1·5 μm DFB lasers by modulation pulse shaping. L. Bickers and L.D. Westbrook p103

Remote displacement measurements using a laser diode. G. Beheim and K. Fritsch p93

Rigorous and approximate calculations of antireflection layer parameters for travelling-wave diode laser amplifiers. C. Vassallo p333

Room-temperature CW operation of AlGaInP double-heterostructure visible lasers. K. Kobayashi, S. Kawata, A. Gomyo, I. Hino and T. Suzuki p931

Room-temperature GaInAsSb/AlGaAsSb DH injection lasers at 2·2 μm. C. Caneau, A.K. Srivastava, A.G. Dentai, J.L. Zyskind and M.A. Pollack p815

Single-frequency operation of an optically pumped monolithic Nd:YAG laser at 1·3 μm. A.I. Ferguson p853

Single-lobe phased-array diode lasers. W. Streifer, A. Hardy, R.D. Burnham and D.R. Scifres p118

Single-lobe symmetric coupled laser arrays. K.-L. Chen and S. Wang p347

Single-longitudinal-mode condition for DFB lasers. G. Motosugi, Y. Yoshikuni and T. Ikegami p352

Spectral linewidth of a GRECC laser with added external cavity. K.-Y. Liou and C.A. Burrus p353

Spectral linewidth of external cavity semiconductor lasers with strong, frequency-selective feedback. R. Wyatt p658

Stabilised PSK transmitter with negative electrical feedback to a semiconductor laser. G. Wenke and S. Saito p653

Stripe-structure dependence of frequency modulation characteristics of AlGaAs lasers. K. Kikuchi, T. Fukushima and T. Okoshi p1088

Strong influence of nonlinear gain on spectral and dynamic characteristics of InGaAsP lasers. J. Manning, R. Olshansky, D.M. Fye and W. Powazinik

p456
Two-dimensional array of GaInAsP/InP surface-emitting lasers. S. Uchiyama and K. Iga p162
Very low threshold current ridge-waveguide AlGaAs/GaAs single-quantum-well lasers. O. Wada, T. Sanada, M. Kuno and T. Fujii p1025
Wide range wavelength tuning in 1·3 μm DBR-DC-PBH-LDs by current injection into the DBR region. M. Yamaguchi, M. Kitamura, S. Murata, I. Mito and K. Kobayashi p63
Wide-bandwidth modulation of three-channel buried-crescent laser diodes. U. Koren, G. Eisenstein, J.E. Bowers, A.H. Gnauck and P.K. Tien p500

LENSES

Coherent pulse generation by active modelocking of a GaAlAs laser in a Selfoc lens extended resonator. T.E. Dimmick, P.-T. Ho and G.L. Burdge e124

LIFE TESTING

Static and dynamic fatigue tests of abraded optical fibre. K. Abe and R. Ernst p926

LIGHT SOURCES

High-power superluminescent diode with reduced coherence length. C.B. Morrison, L.M. Zinkiewicz, J. Niesen and L. Figueroa p840

LIGHT-EMITTING DIODES

1·3 μm edge-emitting diodes launching 250 μW into a single-mode fibre at 100 mA. G. Arnold, H. Gottsmann, O. Krumpholz, E. Schlosser and E.-A. Schurr p993
All-fibre sensing loop using pulse-modulated light-emitting diode. G. Adamovsky p922
Dispersion penalties for single-mode-fibre transmission using 1·3 and 1·5 μm LEDs. J.L. Gimlett, M. Stern, L. Curtis, W.C. Young, N.K. Cheung and P.W. Shumate p668
GaAs saw-tooth superlattice light-emitting diode operating monochromatically at $\lambda \geq 0{\cdot}9$ μm. E.F. Schubert, A. Fischer and K. Ploog p411
High-power InGaAsP edge-emitting LEDs for single-mode optical communication systems. R. Olshansky, D. Fye, J. Manning, M. Stern, E. Meland, W. Powazinik, L. Ulbricht and R. Lauer p730
High-power and high-speed GaAlAs-GaAs LEDs fabricated by MOCVD growth. K. Nitta, T. Komatsubara, H. Kinoshita, Y. Iizuka, M. Nakamura and T. Beppu p208
High-power superluminescent diode with reduced coherence length. C.B. Morrison, L.M. Zinkiewicz, J. Niesen and L. Figueroa p840
Loss-limited transmission at 140 Mbit/s over 30 km of single-mode fibre using a 1·3 μm LED. L.W. Ulbricht, M.J. Teare, R. Olshansky and R.B. Lauer p860
New method to measure facet reflectivity of antireflection (AR)-coated laser diodes and LEDs. J. Wang p929
Novel mechanism for fabrication of high-power superluminescent light-emitting diodes (SLDs). L. Figueroa, C. Morrison, Z. Zinkiewicz and J. Niesen p1106
Optical transmission with single-mode fibres and edge-emitting diodes. G. Arnold and O. Krumpholz p390
Transmission of 140 Mbit/s signals over single-mode fibre using surface- and edge-emitting 1·3 μm LEDs. P.W. Shumate, J.L. Gimlett, M. Stern, M.B. Romeiser and N.K. Cheung p522

LIQUID CRYSTALS

Variable-grating-mode liquid crystals for fibre-optic applications. G.L. Tangonan p701

LITHOGRAPHY

Fabrication of n^+ ledge channel structure for GaAs FETs with a single lithography step. H.M. Macksey and R.D. Hudgens p955
Registration mark detection for scanning ion beam lithography. A.F. Evason, J.R.A. Cleaver, P.J. Heard and H. Ahmed p629

LOGIC AND LOGIC DESIGN

Absolute-type pseudorandom shaft encoder with any desired resolution. E. Petriu p215
Efficient modular design of m-out-of-$2m$ TSC checkers, for $m = 2^K - 1$, $K > 2$. C. Efstathiou and C. Halatsis p1083
High-speed optical-optical logic gate for optical computers. Y. Suzuki, J. Shimada and H. Yamashita p161
Latched domino CMOS logic. J.A. Pretorius, A.S. Shubat and C.A.T. Salama p263
New logic array concept with high flexibility. W. Brockmann, H. Vogt and R. Weiss p891
Novel switched logic CMOS latch building block. L. Spaanenburg, W. Pollok and W. Vermeulen p398
PLA folding algorithm from compatibility relations. N.N. Biswas p984
Testability enhancement of domino CMOS logic. J.A. Pretorius, A.S. Shubat and C.A.T. Salama p336

LOGIC CIRCUITS

High-speed GaAs SCFL divider. A. Tamura, T. Sakashita, T. Uenoyama, K. Nishii, T. Tambo, K. Nagano and T. Onuma p605
New logic array concept with high flexibility. W. Brockmann, H. Vogt and R. Weiss p891

LOSSES

Bending loss measurement of LP_{11} mode in quasi-single-mode operation region. N. Shibata, M. Tsubokawa, M. Ohashi and S. Seikai p1042

MAGNETIC DEVICES

Fictitious potential for 3-D magnetic flux plots. S.R.H. Hoole p15
Novel RF magnetic probe using LED linked with optical fibre. K. Hayashi, Y. Ida and K. Arai p107

MAGNETIC FIELDS

Effect of magnetic field on n^+ nn^+ GaAs ballistic diode. S.C. Tiwari p286 d848

MATHEMATICAL TECHNIQUES

Alternative approach to Zakian's I_{MN} approximant in numerical initial-value problems. H. Inooka p1021

MATRIX ALGEBRA

On common factors appearing in inversion of matrix transfer functions. M.B. Argoun p910
Useful matrix theorem with applications to electronic circuit theory. M.C. Soper p649

MEASUREMENT

Automated Hall effect profiler for electrical characterisation of semiconductors. N.D. Young and M.J. Hight p1044
Digital phasemeter with phase compensation. J. Siuzdak p702
Distributed temperature sensing in solid-core fibres. A.H. Hartog, A.P. Leach and M.P. Gold p1061
Double-resonance technique for C/V measurements of semiconductor devices. D. de Cogan and A. Alani p1153
Fundamental limit to the performance of fibre-optic metallic glass DC magnetometers. M.D. Mermelstein p1178
Improved Raman-fibre pulse delay measurement system. A.C. van Bochove, J.F. Jacobs and H.T. Nijnuis p282
Intrinsic lineshape and FM response of modulated semiconductor lasers. E. Eichen, P. Melman and W.H. Nelson p849
Measurement of Gaussian beam diameter using Ronchi rulings. M.A. Karim p427
Measurement of wavelength variation of mode field radius using far-field pattern method. E.L. Buckland and M. Nishimura p1149
New technique for measuring small MOS gate currents. M. Garrigues and A. Pavlin p16
Noise-proof phase meter with switched lowpass filters. J. Siuzdak p591
Novel RF magnetic probe using LED linked with optical fibre. K. Hayashi, Y. Ida and K. Arai p107
Novel measuring method for spectral linewidth of laser diodes using fibre-optic ring resonator. S. Tai, K. Kyuma and T. Nakayama p91
Novel method for instantaneous determination of frequency of transmitters over wide bandwidths. N. Fourikis p879
Novel technique for measurement of MOSFET threshold voltage at very low channel currents. G.C. Holmes p544
Optical fibre Faraday rotation current sensor with closed-loop operation. A.D. Kersey and A. Dandridge p464
Radiometric measurement of antenna efficiency. J. Ashkenazy, E. Levine and D. Treves p111
Refractometry through optical frequency-domain reflectometry. T.T. Tjhung, S.K. Teo, F.V.C. Mendis and B. Selvan p613
Remote displacement measurements using a laser diode. G. Beheim and K. Fritsch p93
Retrieval of hyperthermia-induced temperature distribution from noisy microwave radiometric data. F. Bardati, M. Mongiardo and D. Solimini p800
Single-mode fibre Fourier transform spectrometer. A.D. Kersey, A. Dandridge, A.B. Tveten and T.G. Giallorenzi p463
Standard instrument configuration for parametric testing. A.J. Walton, J.M. Robertson, R. Holwill and M.B. Moore p127
Temperature measurement technique using Pt diffusion into Au for ion-implanting wafers mounted on a spinning disc. S. Nakashima, S. Kanamori and K. Izumi p1229

MEMORIES

Configuration selection for two-layer memory network pattern classifiers. M.C. Fairhurst and M. Mattoso Maia p963
Novel MOS memory for serial signal processing applications. D.S. McGrath and D.J. Myers p1170

METAL-INSULATOR-SEMICONDUCTOR STRUCTURES AND DEVICES

Logic performance of Si_3N_4-n GaAs quasinormally off MISFETs. A.J. Harrison and J.G. Swanson p976

METAL-OXIDE-SEMICONDUCTOR STRUCTURES AND DEVICES

Analogue four-quadrant CMOS multiplier with resistors. Z. Hong and H. Melchior p531
CMOS triode transconductor for continuous-time active integrated filters. J.L. Pennock p817
Numerical analysis of MOS transistor effective channel width. A.M. Asenov, E.N. Stefanov, B.Z. Antov and P.K. Vitanov p595
Postmetallisation annealing of aluminium-silicon gate MOS capacitors. I. McGillivray, J.M. Robertson and A.J. Walton p973

MICROPROCESSORS AND MICROPROCESSOR APPLICATIONS

Microprocessor-based phase determination for high-resolution optical sensors. A. Bertholds and R. Dändliker p65

MICROSTRIP

Broadband conical microstrip antenna. L. Jeddari, K. Mahdjoubi, C. Terret and J.P. Daniel p896
Characteristics of coupled slow-wave microstrip lines. T.C. Mu, H. Ogawa and T. Itoh p946
Dual-band microstrip antennas with monolithic reactive loading. S.E. Davidson, S.A. Long and W.F. Richards p936
Experimental determination of propagation parameters of a microstrip line with tuning septums. P. Pribetich, P. Kennis and C. Seguinot p745
Microstrip antenna aperture-coupled to a microstripline. D.M. Pozar p49
Microstrip disc antenna with short-circuited annular ring. C.J. Prior and P.S. Hall p719
Microstrip microslot antennas for biomedical applications: Frequency analysis of different parameters of this type of applicator. R. Ledee, M. Chive and M. Plancot p304
Microstrip planar arrays with dielectric sphere overlays. C.M. Hall, G. Andrasic and J.R. James p356
Microstrip termination effects on dielectric resonator filters. R.J. Trew, C.P. Hearn and E.S. Bradshaw p1015
Modified residue calculus technique for microstrip step discontinuities. T.S. Chu and T. Itoh p257

Mutual impedance and coupling coefficient between two 'patches' expressed through analytical forms. G. Dubost p1099
Rectangular ring and H-shaped microstrip antennas—alternatives to rectangular patch antenna. V. Palanisamy and R. Garg p874
Wideband multilayer coaxial-fed microstrip antenna element. K.S. Fong, H.F. Pues and M.J. Withers p497

MICROWAVE AMPLIFIERS

2–18 GHz distributed amplifier in hybrid form. C.L. Law and C.S. Aitchison p684
Experimental gain and noise figure performance of distributed MESFET amplifiers. N. Nazoa-Ruiz and C.S. Aitchison p196
Intermodulation distortion improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p190
Linearisation of microwave power amplifiers using active feedback networks. F. Perez, E. Ballesteros and J. Perez p9
Linearity and efficiency improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p189

MICROWAVE ANTENNAS

Crosspolarisation and gain reduction due to sand or dust on microwave reflector antennas. S.O. Bashir and N.J. McEwan p379
Hankel transform domain analysis of complex resonant frequencies of double-tuned circular disc microstrip resonators/radiators. K. Araki, H. Ueda and M. Takahashi p277
Measurements of crosspolarisation and gain reduction due to dust on a microwave reflector antenna. S.O. Bashir and N.J. McEwan p1141
Microstrip antenna aperture-coupled to a microstripline. D.M. Pozar p49
Microstrip microslot antennas for biomedical applications: Frequency analysis of different parameters of this type of applicator. R. Ledee, M. Chive and M. Plancot p304

MICROWAVE CIRCUITS AND SYSTEMS

20 GHz band high-power onboard beam-switching circuit for multibeam satellite systems. K. Araki and T. Tanaka p474
35 GHz microwave signal generation with an injection-locked laser diode. L. Goldberg, A.M. Yurek, H.F. Taylor and J.F. Weller p814
8 GHz, 10 W solid-state power amplifier for microwave digital radio. T.C. Cheng p110
Analysis of stepped septum polarisers. T. Ege and P. McAndrew p1166
Coupled-slot fin-line isolators. D.B. Sillars and L.E. Davis p97
Design of a wideband compact square waveguide polariser. F. Arndt, W. Tucholke and T. Wriedt p517
Efficient technique for solving nonlinear mixer pumping problem. P.W. van der Walt p899
Equivalent circuit of microstrip spiral inductor circuit generation by computer. A.J. Baden Fuller and A.M. Parker p279
Extrapolation of point rain-rate distributions. T.-S. Chu and J.A. Schecker p754
Frequency and polarisation scaling of microwave attenuation during rainfall. R.S. Butler p826
Microstrip microslot antennas for biomedical applications: Frequency analysis of different parameters of this type of applicator. R. Ledee, M. Chive and M. Plancot p304
Microwave technique for reflector antenna profile measurement. J.C. Bennett and D.G. Swan p560
Modified residue calculus technique for microstrip step discontinuities. T.S. Chu and T. Itoh p257
Mutual impedance and coupling coefficient between two 'patches' expressed through analytical forms. G. Dubost p1099
Note on frequency dependence of quality factor of cavity resonators. A. Sihvola p736
Octave bandwidth microwave FET doubler. R. Gilmore p532
Precise control of Reggia–Spencer phase shifter. P. Kölzer p868
S-parameter measurements with a single six-port. J.D. Hunter and P.I. Somlo p157
Sensitivity improvement in digital microwave signal analysis. K. Matkey, H.-J. Meckelburg and M. Kampmann p362
Temperature range specification of system gain for microwave radio equipment mounted externally. R.P. Scott and D.J. Emerson p469
Time-domain response of MIS coplanar waveguides for MMICs. C. Seguinot, M. El Kadiri, P. Kennis, P. Pribetich and J.P. Villotte p1185

MICROWAVE DEVICES AND COMPONENTS

10–30 GHz monolithic GaAs travelling-wave divider/combiner. H.Q. Tserng and P. Saunier p950
110 GHz GaAs FET oscillator. H.Q. Tserng and B. Kim p178
14 GHz band GaAs monolithic analogue frequency divider. T. Ohira, K. Araki, T. Tanaka and H. Kato p1057
2–18 GHz distributed amplifier in hybrid form. C.L. Law and C.S. Aitchison p684
45 GHz active HEMT mixer. S.A. Maas p104
Analysis of asymmetrical coplanar waveguide and coplanar strip lines with anisotropic substrate. T. Kitazawa and Y. Hayashi p986
Characteristic impedance of coplanar waveguide. D. Bhattacharya p557 e824
Characteristics of coupled slow-wave microstrip lines. T.C. Mu, H. Ogawa and T. Itoh p946
Experimental gain and noise figure performance of distributed MESFET amplifiers. N. Nazoa-Ruiz and C.S. Aitchison p196
Fundamental high-frequency performance limit for impatt mode operation. P.A. Blakey and R.K. Froelich p28
Gigahertz-band analogue switch using bipolar super self-aligned process technology. H. Kikuchi, S. Konaka, K. Kawarada and M. Umehira p854
HEMT 60 GHz amplifier. J. Berenz, K. Nakano, Ting-Ih Hsu and J. Goel p1028
High-power pulsed beam-lead impatt diodes for millimetre waves. R. Pierzina and J. Freyer p913
Hot-electron noise limitations in submillimetre-wave Schottky-barrier mixer diodes. N.J. Keen p2
InGaAs junction FETs with frequency limit (MAG = 1) above 30 GHz. R. Schmitt and K. Heime p449
Injection-lock bandwidth extension by control modulation and current 'hump' slope detection. R.M. Braun and B.J. Downing p564
Intermodulation distortion improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p190
Linearisation of microwave power amplifiers using active feedback networks. F. Perez, E. Ballesteros and J. Perez p9
Linearity and efficiency improvement by active compensation in impatt amplifiers. A. Riris and C.S. Aitchison p189
Microstrip termination effects on dielectric resonator filters. R.J. Trew, C.P. Hearn and E.S. Bradshaw p1015
Microwave PIN diodes for GaAs IC. R. Tayrani and M.I. Sobhy p409
Millimetre-wave microstrip subharmonically pumped mixer. R.S. Tahim, T. Pham and K. Chang p861
Minimisation of phase error in digitally controlled attenuator. T.B. Vu and K.W. Lo p921
Modelling frequency dependence of output impedance of a microwave MESFET at low frequencies. C. Camacho-Peñalosa and C.S. Aitchison p528
Monolithic integration of a 5·3 GHz regenerative frequency divider using a standard bipolar technology. R.H. Derksen, H.-M. Rein and K. Wörner p1037
Operation of gyrotron oscillator with beam current unrestricted by cathode temperature. C.J. Edgcombe and J.A.C. Stenton p349
Phase velocity compensation in three-line coupled microstrip structure by using stratified dielectric substrate. B.J. Janiczak p145
Phase-noise behaviour of frequency dividers implemented with GaAs heterojunction bipolar transistors. K.K. Agarwal, W.J. Thompson and P.M. Asbeck p1005
Planar MOCVD GaAlAs/GaAs high-frequency mixer diodes. A. Christou and M.C. Peckerar p305
Practical performance of a microwave distributed MESFET mixer. O.S.A. Tang and C.S. Aitchison p172
Seven-port millimetre-wave reflectometer. A.L. Cullen and A.J. Belfort p120
Simple derivation of six-port reflectometer equations. J.D. Hunter and P.I. Somlo p370
Single PIN diode X-band phase shifter. C.E. Free and C.S. Aitchison p128
Varactor diode for tuning high-power solid-state microwave oscillators. B.J. Downing p1152
Via holes for GaAs MMICs fabricated using reactive ion etching. K.P. Hilton and J. Woodward p962
Voltage variable microwave phase shifter. R.E. Neidert and C.M. Krowne p636

MICROWAVE FILTERS

Microstrip termination effects on dielectric resonator filters. R.J. Trew, C.P. Hearn and E.S. Bradshaw p1015
Shunt-inductance-coupled waveguide filters with expanded second stopband. F. Arndt, J. Bornemann, C. Piontek and H. Schüler p238

MICROWAVE MEASUREMENT

High-performance thin-film barretter mount for power measurement in W-band. T. Inoue, I. Yokoshima and M. Sasaki p170
Microwave technique for reflector antenna profile measurement. J.C. Bennett and D.G. Swan p560
S-parameter measurements with a single six-port. J.D. Hunter and P.I. Somlo p157
Sensitivity improvement in digital microwave signal analysis. K. Matkey, H.-J. Meckelburg and M. Kampmann p362

MICROWAVE OSCILLATORS

Operation of gyrotron oscillator with beam current unrestricted by cathode temperature. C.J. Edgcombe and J.A.C. Stenton p349
Varactor diode for tuning high-power solid-state microwave oscillators. B.J. Downing p1152

MIXERS

45 GHz active HEMT mixer. S.A. Maas p104
Efficient technique for solving nonlinear mixer pumping problem. P.W. van der Walt p899
Hot-electron noise limitations in submillimetre-wave Schottky-barrier mixer diodes. N.J. Keen p2
Millimetre-wave microstrip subharmonically pumped mixer. R.S. Tahim, T. Pham and K. Chang p861
Planar MOCVD GaAlAs/GaAs high-frequency mixer diodes. A. Christou and M.C. Peckerar p305
Practical performance of a microwave distributed MESFET mixer. O.S.A. Tang and C.S. Aitchison p172
Surface-oriented low-parasitic Mott diode for EHF mixer applications. U.K. Mishra, S.C. Palmateer, S.J. Nightingale, M.A.G. Upton and P.M. Smith p652

MOBILE RADIO SYSTEMS

Capacity of wideband TDMA digital mobile radio cellular schemes. P.A. Matthews p1189
Fast-fading characterisation in urban mobile propagation at 855 MHz in Paris. P. Olivier and J. Tiffon p830
Field test measurement for 920 MHz transmitter diversity. S. Ogose p159
Outage probability in a mobile radio system subject to fading and shadowing. A.G. Williamson and J.D. Parsons p622
Path loss characteristics of 60 GHz transmissions. N.D. Hawkins, R. Steele, D.C. Rickard and C.R. Shepherd p1054

MODEL ANALYSIS

Model reduction by condensed continued-fraction method. T.N. Lucas p680
System reduction by continued-fraction expansion about $s = j\omega_r$. Y. Katsube, K. Horiguchi and N. Hamada p678

MODELLING

Algorithms for fault identification in a diagnosable multiprocessor system. F. Lombardi p405
Equivalent circuit of microstrip spiral inductor circuit generation by computer. A.J. Baden Fuller and A.M. Parker p279
Experimental verification of a VMOS UHF power transistor model and design. M. Du Plessis and P. Rademeyer p881
Novel approach to multiplexer simulation and sensitivity analysis. J.W. Bandler, S. Daijavad and Q.J. Zhang p408
Threshold modelling of MOSFETs for CAD of CMOS-VLSI. G.T. Wright p223

MODULATION

Conditional entropy encoding of log-PCM speech. H. Gharavi and R. Steele p475
Equalisation of semiconductor diode laser frequency modulation with a passive network. S.B. Alexander and D. Welford p361
High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers. J.E. Bowers, T.L. Koch, B.R. Hemenway, D.P. Wilt, T.J. Bridges and E.G. Burkhardt p297
Modulation of near-millimetre-wavelength radiation by magnetic fluids. J.R. Birch, C.A. Bentley and J.P. Llewellyn p313
Modulation scheme suitable for infra-red biotelemetry. C. Weller p601
SNR comparison between two designs of PFM demodulator used to demodulate PFM or FM. D.J.T. Heatley p214
Subharmonic modulation distortions in semiconductor lasers with optical feedback. Y. Hirose, A. Ona and T. Fukuda p685

MODULATORS

Integrated-optic device for high-speed databuses. L. Thylén, A. Djupsjöbacka, M. Janson and W. Döldissen p491
Novel type of broadband travelling-wave integrated-optic modulator. A. Djupsjöbacka p908

MULTIPLEXERS AND MULTIPLEXING

Frequency multiplexing in an optical system using a Mach–Zehnder waveguide frequency translator. G.R. Hill, R.A. Lobbett and W.A. Stallard p1214
Monolithic integrated 4:1 multiplexer and demultiplexer operating up to 4·8 Gbit/s. N. Yoshikai, S. Kawanishi, M. Suzuki and S. Konaka p149

NEGATIVE RESISTANCE

Integrable wide-dynamic-range negative resistance circuits. W. Surakampontorn p506

NETWORKS AND NETWORK THEORY

Application of a six-port network to a near-field antenna measurement system. M.E. Bialkowski and G.S. Woods p1066
Circuit theoretic analysis of resonance transformers. J.A. Heinen and R.J. Niederjohn p866
Cost-effective digital switching network. A. Jajszczyk p909
Rearrangeable one-sided switching networks composed of uniform time-space elements. A. Jajszczyk and W. Kabacinski p285

NOISE

1/*f* noise in carbon resistors excited by pulse waveforms. Y. Ulgen p485
Compact noise-reduction system for quasistatic TV pictures. M.J.M. Pelgrom, J. Herrmann, H.P. van Gijn and F.W.P. Vreeswijk p766
Effect of correlated noise on error probability of binary frequency shift keying with limiter-discriminator-detector and narrowband filters. I. Korn p481
Envelope statistics of narrowband Cauchy noise. J.H. Roberts p1215
Fractal dimension of $1/f^{\alpha}$ noises. J.L. Vaterkowski, C. Roques-Carmes and J.J. Gagnepain p688

NONLINEAR NETWORKS

Novel switched-capacitor generalised integrator. A. Cichocki and R. Unbehauen p158

NONLINEAR OPTICS

Experimental nonlinear optical waveguide device. I. Bennion, M.J. Goodwin and W.J. Stewart p41

NUMERICAL METHODS AND NUMBER THEORY

Alternative approach to Zakian's I_{MN} approximant in numerical initial-value problems. H. Inooka p1021

OPERATIONAL AMPLIFIERS

New *RC*-active oscillator configuration employing unity-gain amplifiers. R. Senani p889
Technique for offset voltage cancellation in MOS operational amplifiers. S.L. Wong and C.A.T. Salama p389

OPTICAL COMMUNICATION

110 km cost-effective transmission experiment at 140 Mbit/s using a 1·55 μm external-cavity BH laser. J.J. Bernard, S. Chalot, J. Mouchart, A. Doll, C. Coeurjolly and E. Leclerc p1222
180 Mbit/s, 35 km transmission over single-mode fibre using 1·3 μm edge-emitting LEDs. R.H. Saul, W.C. King, N.A. Olsson, C.L. Zipfel, B.H. Chin, A.K. Chin, I. Camlibel and G. Minneci p773
1·3 Gbit/s transmission over 107 km of dispersion-shifted monomode fibre using a 1·55 μm multimode laser. K.L. Monham, R. Plastow, A.C. Carter and R.C. Goodfellow p619
1·3 μm edge-emitting diodes launching 250 μW into a single-mode fibre at 100 mA. G. Arnold, H. Gottsmann, O. Krumpholz, E. Schlosser and E.-A. Schurr p993
1·7 Gbit/s multiplexing-demultiplexing system for a high-bit-rate optical link. M. Henry, P. Maheo, C. Thebault and J.C. Vergos p487
1 × *n* optical fibre switch. A. El Fatatry p618
26·5 GHz bandwidth InGaAsP lasers with tight optical confinement. J.E. Bowers, B.R. Hemenway, T.J. Bridges, E.G. Burkhardt and D.P. Wilt p1090
3 km-long single-polarisation single-mode fibre. T. Hosaka, Y. Sasaki and K. Okamoto p1023
400 Mbit/s CMI transmission experiment using a 1·3 μm LED. K. Hagishima and J. Yamada p17
450 Mbit/s optical frequency-division-multiplexing transmission with an 11 GHz channel spacing. H. Toba, K. Inoue and K. Nosu p656
600 MHz optical signal transmission at the 3 μm band using a fluoride optical fibre and a superconducting detector. Y. Enomoto, Y. Ohishi, S. Takahashi and T. Murakami p219
68·3 km transmission with 1·37 Tbit km/s capacity using wavelength division multiplexing of ten single-frequency lasers at 1·5 μm. N.A. Olsson, J. Hegarty, R.A. Logan, L.F. Johnson, K.L. Walker, L.G. Cohen, B.L. Kasper and J.C. Campbell p105
7·5 km bidirectional single-mode optical-fibre link using dual-mode InGaAsP/InP 1·3 μm laser detectors. J.P. van der Ziel, R.M. Mikulyak and R.A. Logan p511
ASK heterodyne receiver sensitivity measurements with two in-line 1·5 μm optical amplifiers. N.A. Olsson p1085
Analogue video transmission over cabled monomode fibre using optical frequency modulation with heterodyne detection. D.J.T. Heatley, R.A. Lobbett, T.K. White, A.J. Farthing, K.I. Gilbert, W.A. Stallard and A.R. Beaumont p717
Automatic threshold-level control (ATC) for optimum decision operation in optical repeaters. N. Ohta, J. Yamada and T. Nishida p1148
Bidirectional LED transmission on single-mode fibre in the 1300 and 1500 nm wavelength regions. M. Stern, J.L. Gimlett, L. Curtis, N.K. Cheung, M.B. Romeiser, W.C. Young and P.W. Shumate p928
Bidirectional transmission over 11 km of single-mode optical fibre at 34 Mbit/s using 1·3 μm LEDs and directional couplers. R.D. Hall, R.A. Betts and J.P. Moss p628
Broad-passband-width optical filter for multi/demultiplexer using a diffraction grating and a retroreflector prism. I. Nishi, T. Oguchi and K. Kato p423
Coupling of lasers to single-mode fibres with high efficiency and low optical feedback. T. Schwander, B. Schwaderer and H. Storm p287
Crosstalk limits of Fabry–Perot demultiplexers. S.R. Mallinson p759
Demodulation of optical DPSK using in-phase and quadrature detection. T.G. Hodgkinson, R.A. Harmon and D.W. Smith p867
Direct streak-camera observation of picosecond gain-switched optical pulses from a 1·5 μm semiconductor laser. I.H. White, D.F.G. Gallagher, M. Osiński and D. Bowley p197 e359
Directional-coupler filter using dissimilar optical fibres. D. Marcuse p726
Dispersion penalties for single-mode-fibre transmission using 1·3 and 1·5 μm LEDs. J.L. Gimlett, M. Stern, L. Curtis, W.C. Young, N.K. Cheung and P.W. Shumate p668
Effect of intermodulation in multichannel optical heterodyne systems. P. Healey p101
Effect of third-order dispersion of optical fibre on soliton interaction. P.L. Chu and C. Desem p228
Effects of dispersion in a 565 Mbit/s optical fibre laboratory system. D.S. Larner p187
Error-rate floor in optical ASK heterodyne systems caused by nonzero (semiconductor) laser linewidth. G. Jacobsen and I. Garrett p268
Experimental nonlinear optical waveguide device. I. Bennion, M.J. Goodwin and W.J. Stewart p41
FM noise and linewidth reduction in semiconductor laser weakly coupled to a single-mode fibre resonator. F. Favre and D. Le Guen p467
FSK heterodyne system experiments at 1·5 μm using a DFB laser transmitter. F. Mogensen, T.G. Hodgkinson and D.W. Smith p518
Fibre-coupled Fabry–Perot wavelength demultiplexer. S.R. Mallinson p121
Frequency chirping of external modulation and its reduction. F. Koyama and K. Iga p1065
Further note on *m*B1C code spectra. J.J. O'Reilly p918
Gain measurements of InGaAsP 1·5 μm optical amplifiers. G. Eisenstein, R.M. Jopson, R.A. Linke, C.A. Burrus, U. Koren, M.S. Whalen and K.L. Hall p1076
High reliability of 1·5 μm two-step VPE-LPE-grown DC-PBH lasers. S. Sugou, H. Nishimoto, M. Kitamura, I. Mito and T. Yanase p1154
High-power InGaAsP edge-emitting LEDs for single-mode optical communication systems. R. Olshansky, D. Fye, J. Manning, M. Stern, E. Meland, W. Powazinik, L. Ulbricht and R. Lauer p730
High-power and high-speed GaAlAs-GaAs LEDs fabricated by MOCVD growth. K. Nitta, T. Komatsubara, H. Kinoshita, Y. Iizuka, M. Nakamura and T. Beppu p208
High-power single-mode optical-fibre coupling to InGaAsP 1·3 μm mesa-structure surface-emitting LEDs. T. Uji and J. Hayashi p418
High-power, low-threshold BH lasers operating at 1·52 μm grown entirely by MOVPE. A.W. Nelson, W.J. Devlin, R.E. Hobbs, C.G.D. Lenton and S. Wong p888
High-speed large-signal digital modulation of a 1·3 μm InGaAsP constricted mesa laser at a simulated bit rate of 16 Gbit/s. Chinlon Lin and J.E. Bowers p906 e632
Improved noninvasive 'fibredyne' highway based on polarimetric detection of strain in polarisation-maintaining fibres. J.P. Dakin and D.J. Pratt p1224
In-line optical-fibre filter for wavelength multiplexing. M.S. Whalen and K.L. Walker p724
Influence of (semiconductor) laser linewidth on the error-rate floor in dual-filter optical FSK receivers. I. Garrett and G. Jacobsen p280
Jitter accumulation in optical transmission systems. J.H. Wilbrod and J. Moulu p740
Long-span optical transmission experiment over 222·8 km of commercial monomode fibre at 140 Mbit/s and 1·525 μm. L. Bickers, L.C. Blank and S.D. Walker p267
Loss-limited transmission at 140 Mbit/s over 30 km of single-mode fibre using a 1·3 μm LED. L.W. Ulbricht, M.J. Teare, R. Olshansky and R.B. Lauer p860
Low-loss 8 × 8 single-mode star coupler. D.B. Mortimore p502
Measured dynamic linewidth properties of a 1·5 μm DFB-GRIN-rod coupled-cavity laser under direct high-frequency modulation. T.P. Lee and S.G. Menocal p1046
Measurement of linewidth broadening factor in gain-switched InGaAsP injection lasers by CHP method. M. Osiński, D.F.G. Gallagher and I.H. White p981
Measurement of the Raman crosstalk at 1·5 μm in a wavelength-division-multiplexed transmission system. J. Hegarty, N.A. Olsson and M. McGlashan-Powell p395
Modal noise reduced PFM transmission by monopulse to twin-pulse conversion. M. Nakamura, K. Kaito and T. Ozeki p307
Mode transition matrices for fibre-optic connectors. G. Evers p401
Monolithic 2·1 Gbit/s decision circuit with a decision threshold ambiguity width of less than 10 mV. M. Suzuki and K. Hagimoto p844
Multiport optical fibre switch using a new hexagonal prism design. C.F. Buhrer p183
Narrowband position-tuned multilayer interference filter for use in single-mode-fibre systems. P.H. Lissberger, A.K. Roy and D.J. McCartney p798
New method for polarisation alignment of birefringent fibre with laser diode. Y. Ida, K. Hayashi, M. Jinno, T. Horii and K. Arai p18
Novel optical isolator consisting of a YIG spherical lens and PANDA-fibre polarisers. K. Okamoto, H. Miyazawa, J. Noda and M. Saruwatari p36
Observation of modal noise in single-mode-fibre transmission systems. N.K. Cheung, A. Tomita and P.F. Glodis p5
Operation trial of 400 Mbit/s submarine optical transmission system. S. Tsutsumi, I. Kitazawa, H. Kimoto and O. Kawata p182
Optical DPSK heterodyne detection experiments using DBR laser diodes with external optical feedback. K. Emura, M. Shikada, S. Yamazaki, K. Komatsu, I. Mito and K. Minemura p1121

Optical circulator consisting of a YIG spherical lens, PANDA-fibre polarisers and a fibre-optic polarising beam splitter. I. Yokohama, K. Okamoto and J. Noda p746
Optical polarisation control utilising an optical heterodyne detection scheme. T. Imai, K. Nosu and H. Yamaguchi p52
Optical transmission with single-mode fibres and edge-emitting diodes. G. Arnold and O. Krumpholz p390
Packaged frequency-stable tunable 20 kHz linewidth 1·5 μm InGaAsP external cavity laser transmission systems. M.R. Matthews, K.H. Cameron, R. Wyatt and W.J. Devlin p113
Phase-locked-loop analysis for pilot carrier coherent optical receivers. T.G. Hodgkinson p1202
Picosecond optical pulse compression from gain-switched 1·3 μm distributed-feedback laser diode through highly dispersive single-mode fibre. A. Takada, T. Sugie and M. Saruwatari p969
Planar monolithic integration of a Schottky photodiode and a GaAs field-effect transistor for 0·8 μm-wavelength applications. H. Verriele, S. Maricot, M. Constant, J. Ramdani and D. Decoster p878
Power spectra of *m*B1C codes for optical communication. G.S. Poo p788
Realisation of flat FM response by directly modulating a phase tunable DFB laser diode. S. Yamazaki, K. Emura, M. Shikada, M. Yamaguchi and I. Mito p283
SAGM avalanche photodiode optical receiver for 2 Gbit/s and 4 Gbit/s. B.L. Kasper, J.C. Campbell, A.H. Gnauck, A.G. Dentai and J.R. Talman p982
Screening by aging test for highly reliable laser diodes. O. Fujita, Y. Nakano and G. Iwane p1172
Simultaneous modulation and wavelength multiplexing with a tunable Ti:$LiNbO_3$ directional coupler filter. R.C. Alferness and J.J. Veselka p466
Single-mode operation of 1·55 μm semiconductor lasers using a volume holographic grating. P. Mills and R. Plastow p648
Stabilised PSK transmitter with negative electrical feedback to a semiconductor laser. G. Wenke and S. Saito p653
Systematic jitter suppression by pattern inversion. M. Amemiya, Y. Hayashi and T. Ito p709
Theoretical analysis of mode partition noise in single-frequency semiconductor lasers. T.M. Shen and G.P. Agrawal p1220
Transmission of 140 Mbit/s signals over single-mode fibre using surface- and edge-emitting 1·3 μm LEDs. P.W. Shumate, J.L. Gimlett, M. Stern, M.B. Romeiser and N.K. Cheung p522
Transmission over 107 km of dispersion-shifted fibre at 16 Mbit/s using a 1·55 μm edge-emitting source. R. Plastow, K.L. Monham, A.C. Carter, J.E. Ritter, T.D. Croft and M. Gibson p369
Tunable birefringent wavelength-division multiplexer/demultiplexer. P. Melman, W.J. Carlsen and B. Foley p634
Tunable optical multi/demultiplexer for optical FDM transmission system. K. Inoue, H. Toba and K. Nosu p387
Ultra-low-capacitance flip-chip-bonded GaInAs PIN photodetector for long-wavelength high-data-rate fibre-optic systems. R.S. Sussmann, R.M. Ash, A.J. Moseley and R.C. Goodfellow p593
Use of superluminescent diodes in PFM optical video transmission. T.T. Tjhung, F.V.C. Mendis and B. Selvan p939
Water propagation blocking properties of submarine optical fibre cable. N. Yoshizawa, M. Ohnishi, K. Ishihara and Y. Negishi p796
Wide-bandwidth, sharp-cutoff bandpass filter for WDM transmission. J. Minowa and Y. Fujii p915

OPTICAL CONNECTORS & COUPLERS

All-fibre polarisation splitter/combiner. T. Bricheno and V. Baker p251
All-fibre polarising beamsplitter. M.S. Yataki, D.N. Payne and M.P. Varnham p249
All-fibre wavelength filters using concatenated fused-taper couplers. M.S. Yataki, D.N. Payne and M.P. Varnham p248
Biconical taper coaxial coupler filter. A.C. Boucouvalas and G. Georgiou p1033
Biconical taper coaxial optical fibre coupler. A.C. Boucouvalas and G. Georgiou p864
Effective calculation method for laser-diode/multimode-fibre coupling. K. Kawano, H. Miyazawa and O. Mitomi p609
Fused couplers of arbitrary cross-section. A.W. Snyder and Xue-Heng Zheng p1079
High-power single-mode optical-fibre coupling to InGaAsP 1·3 μm mesa-structure surface-emitting LEDs. T. Uji and J. Hayashi p418
Low-loss 8 × 8 single-mode star coupler. D.B. Mortimore p502
Mesh waveguide optical star coupler. Y. Kokubun, S. Suzuki, Y. Iijima and K. Iga p482
Mode transition matrices for fibre-optic connectors. G. Evers p401
New biconically tapered fibre star coupler: structure and fabrication. K. Imoto, Y. Ikuta and M. Maeda p514
Polarisation analysis of strongly fused and weakly fused tapered couplers. F.P. Payne, C.D. Hussey and M.S. Yataki p561
Polarisation modulation in long couplers. J.D. Love and M. Hall p519
Polarising beamsplitter from fused-taper couplers. A.W. Snyder p623
Possible fused fibre in-phase/quadrature measuring multiport. A.R.L. Travis and J.E. Carroll p954
Variational analysis of fused tapered couplers. J.V. Wright p1064
Wavelength-flattened fused couplers. D.B. Mortimore p742

OPTICAL DETECTORS

600 MHz optical signal transmission at the 3 μm band using a fluoride optical fibre and a superconducting detector. Y. Enomoto, Y. Ohishi, S. Takahashi and T. Murakami p219
Novel $LiNbO_3$ integrated-optic component for coherent optical heterodyne detection. W.A. Stallard, T.G. Hodgkinson, K.R. Preston and R.C. Booth p1077
Optical DPSK heterodyne detection experiments using DBR laser diodes with external optical feedback. K. Emura, M. Shikada, S. Yamazaki, K. Komatsu, I. Mito and K. Minemura p1121

OPTICAL DISPERSION

Chromatic dispersion measurement of a single-mode fibre by improved optical heterodyne interferometry. M. Tsubokawa, N. Shibata, S. Seikai and T. Higashi p781
Conditions for obtaining zero polarisation mode dispersion in elliptical-core fibres. K.S. Chiang p592
Design and manufacture of fibres with specific dispersion properties. B.P. Nelson, B.J. Ainslie and D.M. Cooper p274
Dispersion of linewidth-broadening factor in 1·5 μm laser diodes. L.D. Westbrook p1018
Effects of dispersion in a 565 Mbit/s optical fibre laboratory system. D.S. Larner p187
Improved Raman-fibre pulse delay measurement system. A.C. van Bochove, J.F. Jacobs and H.T. Nijnuis p282
Linearly birefringent fibres with zero polarisation-mode dispersion. K.S. Chiang p916
Non-Gaussian intensity distribution and dispersion compensation in single-mode fibres. F. Weling p811

OPTICAL FIBRES

3 km-long single-polarisation single-mode fibre. T. Hosaka, Y. Sasaki and K. Okamoto p1023
678 Mbaud optical transmission experiment through 37 km of PCVD graded-index fibre. G. Appelhans, W. Lackas and G. Lampe p266
All-fibre polarisation splitter/combiner. T. Bricheno and V. Baker p251
All-fibre polarising beamsplitter. M.S. Yataki, D.N. Payne and M.P. Varnham p249
Approximate analytic forms for the propagation characteristics of single-mode optical fibres. C.D. Hussey and F. Martinez p1103
Bending loss measurement of LP_{11} mode in quasi-single-mode operation region. N. Shibata, M. Tsubokawa, M. Ohashi and S. Seikai p1042
Bit error rate evaluation of optical signals amplified via stimulated Raman process in an optical fibre. Y. Aoki, S. Kishida, K. Washio and K. Minemura p191
Characterisation of single-mode optical fibres by measurement of equalisation wavelength. J.L. McMillan and S.C. Robertson p295
Characterisation procedure of fibre packagings relative to microbends. P.L. Francois, J.F. Bayon, F. Alard and D. Grot p471
Chromatic dispersion measurement of a single-mode fibre by improved optical heterodyne interferometry. M. Tsubokawa, N. Shibata, S. Seikai and T. Higashi p781
Coherent optical-fibre subscriber line. E.-J. Bachus, R.-P. Braun, W. Eutin, E. Großmann, H. Foisel, K. Heimes and B. Strebel p1203
Conditions for obtaining zero polarisation mode dispersion in elliptical-core fibres. K.S. Chiang p592
Crosstalk due to stimulated Brillouin scattering in monomode fibre. R.G. Waarts and R.P. Braun p1114
Design and fabrication of dispersion-shifted depressed-clad triangular-profile (DDT) single-mode fibre. H.-T. Shang, T.A. Lenahan, P.F. Glodis and D. Kalish p201
Design and manufacture of fibres with specific dispersion properties. B.P. Nelson, B.J. Ainslie and D.M. Cooper p274
Direct measurement of chromatic dispersion in single-mode fibres using streak camera. K. Mochizuki, M. Fujise, H. Suzuki, M. Watanabe, M. Koishi and T. Tsuchiya p524
Dispersion penalties for single-mode-fibre transmission using 1·3 and 1·5 μm LEDs. J.L. Gimlett, M. Stern, L. Curtis, W.C. Young, N.K. Cheung and P.W. Shumate p668
Dispersion reduction in single-mode-fibre links. D.S. Larner and V.A. Bhagavatula p1171
Dispersion-shifted convex-index single-mode fibres. N. Kuwaki, M. Ohashi, C. Tanaka and N. Uesugi p1186
Distributed optical fibre Raman temperature sensor using a semiconductor light source and detector. J.P. Dakin, D.J. Pratt, G.W. Bibby and J.N. Ross p569
Distributed temperature sensing in solid-core fibres. A.H. Hartog, A.P. Leach and M.P. Gold p1061
Double-flame VAD process for high-rate optical preform fabrication. H. Suda, S. Shibata and M. Nakahara p29 e359
Effect of third-order dispersion of optical fibre on soliton interaction. P.L. Chu and C. Desem p228
Effectively nonreciprocal evanescent-wave optical-fibre directional coupler. M.S. Whalen and T.H. Wood p175
Fabrication and characterisation of fluoride-glass single-mode fibres. M. Monerie, F. Alard and G. Maze p1179
Fabrication of antimony oxide-doped silica fibres by the VAD process. M. Shimizu, Y. Ohmori and M. Nakahara p872
Fabrication of long single-mode and multimode fluoride glass fibres by the double-crucible technique. H. Tokiwa, Y. Mimura, T. Nakai and O. Shinbori p1131
Fabrication of low-loss optical fibres containing rare-earth ions. S.B. Poole, D.N. Payne and M.E. Fermann p737
Fast method for calculating cutoff frequencies in single-mode fibres with arbitrary index profiles. P.Y.P. Chen d966
Few parameter method for bandwidth prediction of a fibre chain. P.M. Rodhe and M. Trikopoulos p276
Fibre splices with 'perfect fibre' strengths of 5·5 GPa, $v < 0{\cdot}01$. J.T. Krause and C.R. Kurkjian p533
Fibre-optic Solc filter for use in Raman amplification of light. K. Okamoto, J. Noda and H. Miyazawa p90
Fibre-optic polarising beam splitter employing birefringent-fibre coupler. I. Yokohama, K. Okamoto and J. Noda p415
Frost-resistant coated optical fibres. A.A. Abramov, G.Yu. Borkina, M.M. Bubnov, E.M. Dianov, A.N. Guryanov and V.N. Mjakov p805
Fused couplers of arbitrary cross-section. A.W. Snyder and Xue-Heng Zheng p1079
High-rate fabrication of wholly synthesised fibre preforms by the multiflame VAD method using $SiHCl_3$ raw materials. H. Suda, S. Shibata and M. Nakahara p1123
Hydrogen evolution behaviour of silicone-coated optical fibres. S.R. Barnes, S.P. Riley and S.V. Wolfe p712
Hydrogen generation due to decomposition of carboxymethyl-cellulose in muddy water. H. Koga, Y. Mitsunaga and T. Kuwabara p902
Hydrogen-induced loss increases in germanium-doped single-mode optical fibres: long-term predictions. A. Tomita and P.J. Lemaire p71
Hydroxyl production in optical fibres coated with hydrogen-free plastic materials. H. Itoh, Y. Ohmori and M. Nakahara p206
Improved Raman-fibre pulse delay measurement system. A.C. van Bochove, J.F. Jacobs and H.T. Nijnuis p282
Limits to power transmission in optical fibres. K.C. Byron and G.D. Pitt p850 e1003
Linearly birefringent fibres with zero polarisation-mode dispersion. K.S. Chiang p916
Loss and mechanical strength of splices. A.K. Das and S. Bhattacharyya p81
Low-OH-content fibre fabrication using particle-size control sol-gel method. S. Shibata, F. Hanawa and M. Nakahara p1145
Low-loss and low-crosstalk polarisation-maintaining optical fibres. T. Hosaka, Y. Sasaki, J. Noda and M. Horiguchi p920
Low-loss polarisation-maintaining optical fibre with low crosstalk. Y. Sasaki, T. Hosaka and J. Noda p156

Low-temperature behaviour of high-birefringence fibres. M.J. Marrone and M.A. Davis p703
Measurement of intermodal delay in a dual-mode optical fibre. D. Uttam p1031
Measurement of single-mode optical-fibre spot size using strip integration of far field. P.J. Samson p589
Measurement of wavelength variation of mode field radius using far-field pattern method. E.L. Buckland and M. Nishimura p1149
Mesh waveguide optical star coupler. Y. Kokubun, S. Suzuki, Y. Iijima and K. Iga p482
Method for cooling and bubble-free coating of optical fibres at high drawing rates. C.M.G. Jochem and J.W.C. van der Ligt p786
Microlenses for stressed-cladding polarisation-preserving fibre. R.M. Jopson, G. Eisenstein, K.L. Hall and J.R. Simpson p758
Modelling fused single-mode-fibre couplers. F.P. Payne, C.D. Hussey and M.S. Yataki p461
Mutual interaction between solitons of unequal amplitudes in optical fibre. P.L. Chu and C. Desem p1133
New approach for determining non-Gaussian mode fields of single-mode fibres from measurements in far field. C. Saravanos and R.S. Lowe p898
New biconically tapered fibre star coupler: structure and fabrication. K. Imoto, Y. Ikuta and M. Maeda p514
New field measurement system for single-mode fibre dispersion utilising wavelength division multiplexing technique. W.H. Hatton and M. Nishimura p1072
New method to measure scattering and total losses of optical fibres. G. Ghosh, S. Kachi, Y. Sasaki and M. Kimura p670
New polarisation-control scheme for optical heterodyne receiver using two Faraday rotators. T. Okoshi, Y.H. Cheng and K. Kikuchi p787
New polarisation-state control device: rotatable fibre cranks. T. Okoshi, N. Fukaya and K. Kikuchi p895
Non-Gaussian intensity distribution and dispersion compensation in single-mode fibres. F. Weling p811
Novel measurement method for axial residual stress in optical fibre. T. Abe, Y. Mitsunaga and H. Koga p4
Optical fibre Faraday rotation current sensor with closed-loop operation. A.D. Kersey and A. Dandridge p464
Optical processing technique for spot-size measurements in single-mode fibres. R. Caponi, G. Coppa, P. Di Vita and U. Rossi p56
Optical transmission with single-mode fibres and edge-emitting diodes. G. Arnold and O. Krumpholz p390
Origin of spurious modes in the analysis of optical fibre using the finite-element or finite-difference technique. Ching-Chuan Su p858
Photobleaching effect on visible-region loss increase for heat-treated optical fibres in a hydrogen atmosphere. K. Noguchi, N. Uesugi, N. Shibata, K. Ishihara and Y. Negishi p438
Polarisation analysis of strongly fused and weakly fused tapered couplers. F.P. Payne, C.D. Hussey and M.S. Yataki p561
Polarisation holding in long-length polarising fibres. M.J. Marrone p244
Polarisation splitters and birefringent couplers. A.W. Snyder and A. Stevenson p75
Polarising anisotropic fibres and their leaky modes. A.W. Snyder and A. Ankiewicz p1105
Polarising beamsplitter from fused-taper couplers. A.W. Snyder p623
Propagation characteristics of a triangular-index doubly clad monomode fibre. K.-B. Chung and S.S. Choi p271
Radially anisotropic lightguide mode selector. R.J. Black, C. Veilleux, J. Bures and J. Lapierre p987
Raman amplification in fluoride glass fibres. Y. Durteste, M. Monerie and P. Lamouler p723
Reduction of absorption loss due to iron ions in fluoride glasses. T. Nakai, Y. Mimura, H. Tokiwa and O. Shinbori p625
Reduction of absorption losses in ZrF_4-based IR fibres. P.W. France, S.F. Carter, M.W. Moore and J.R. Williams p602
Single-mode optical-fibre ribbon cable. Y. Katsuyama, S. Hatano, K. Hogari, T. Matsumoto and T. Kokubun p134
Static and dynamic fatigue tests of abraded optical fibre. K. Abe and R. Ernst p926
Statistics of Rayleigh backscatter from a single-mode optical fibre. P. Healey p226
Streak camera study of ultrashort pulse propagation in a weakly multimode optical fibre. K. Smith, W. Sibbett and N. Langford p1068
Synthesis of monomode fibre profiles by solving a modified eigenvalue problem. G. Trommer p458
Synthesis of monomode fibre profiles by solving an almost linear system of algebraic equations. G. Trommer p727
Tensile strength of optical fibre ribbon. K. Hogari and Y. Katsuyama p39
Time division multiplexed OTDR system. T. Kimura, H. Shimizu, H. Miyagi and K. Noda p1070
Transmission loss behaviour of PCVD fibres in H_2 atmosphere. H. Wehr and F. Weling p852
Two-channel heterodyne-type transmission experiment. E.-J. Bachus, F. Böhnke, R.-P. Braun, W. Eutin, H. Foisel, K. Heimes and B. Strebel p35
Two-parameter characterisation of single-cladded, dispersion-shifted single-mode fibres. J.H. Povlsen p322
Variational analysis of fused tapered couplers. J.V. Wright p1064
Water propagation blocking properties of submarine optical fibre cable. N. Yoshizawa, M. Ohnishi, K. Ishihara and Y. Negishi p796

OPTICAL FILTERS

Biconical taper coaxial coupler filter. A.C. Boucouvalas and G. Georgiou p1033
Broad-passband-width optical filter for multi/demultiplexer using a diffraction grating and a retroreflector prism. I. Nishi, T. Oguchi and K. Kato p423
Directional-coupler filter using dissimilar optical fibres. D. Marcuse p726
In-line optical-fibre filter for wavelength multiplexing. M.S. Whalen and K.L. Walker p724
Narrowband position-tuned multilayer interference filter for use in single-mode-fibre systems. P.H. Lissberger, A.K. Roy and D.J. McCartney p798

OPTICAL LOGIC

High-speed optical-optical logic gate for optical computers. Y. Suzuki, J. Shimada and H. Yamashita p161
Optical flip-flop. J.M. Liu and Y.C. Chen p236

OPTICAL MEASUREMENT

Bending loss measurement of LP_{11} mode in quasi-single-mode operation region. N. Shibata, M. Tsubokawa, M. Ohashi and S. Seikai p1042
Chromatic dispersion measurement of a single-mode fibre by improved optical heterodyne interferometry. M. Tsubokawa, N. Shibata, S. Seikai and T. Higashi p781
Distributed temperature sensing in solid-core fibres. A.H. Hartog, A.P. Leach and M.P. Gold p1061
Long-range 1·5 μm OTDR in a single-mode fibre using a D_2 gas-in-glass laser (100 km) or a semiconductor laser (60 km). J. Stone, A.R. Chraplyvy and B.L. Kasper p541
Loss of temporal coherence due to fibre chromatic dispersion. N. Shibata, M. Tsubokawa, Y. Kimura and S. Seikai p1087
Measurement of intermodal delay in a dual-mode optical fibre. D. Uttam p1031
Measurement of single-mode optical-fibre spot size using strip integration of far field. P.J. Samson p589
New field measurement system for single-mode fibre dispersion utilising wavelength division multiplexing technique. W.H. Hatton and M. Nishimura p1072
Novel simple method for determination of refractive index of optical monomode slab waveguides. C. Bornholdt, J. Krauser and H.-P. Nolting p706
Refractometry through optical frequency-domain reflectometry. T.T. Tjhung, S.K. Teo, F.V.C. Mendis and B. Selvan p613
Simple technique for measuring attenuation of integrated optical waveguides. N. Nourshargh, E.M. Starr, N.I. Fox and S.G. Jones p818

OPTICAL MODULATION

100 ps waveguide multiple quantum well (MQW) optical modulator with 10:1 on/off ratio. T.H. Wood, C.A. Burrus, R.S. Tucker, J.S. Weiner, D.A.B. Miller, D.S. Chemla, T.C. Damen, A.C. Gossard and W. Wiegmann p693
1·6 GHz electroabsorption light modulation in InGaAsP/InP double heterostructures with strip-loaded planar waveguide. Y. Noda, M. Suzuki, Y. Kushiro and S. Akiba p1182
Demodulation of optical DPSK using in-phase and quadrature detection. T.G. Hodgkinson, R.A. Harmon and D.W. Smith p867
Frequency chirping of external modulation and its reduction. F. Koyama and K. Iga p1065
High-speed long-wavelength optical modulation in InGaAs/InAlAs multiple quantum wells. K. Wakita, Y. Kawamura, Y. Yoshikuni, H. Asahi and S. Uehara p951
Simultaneous modulation and wavelength multiplexing with a tunable Ti:$LiNbO_3$ directional coupler filter. R.C. Alferness and J.J. Veselka p466

OPTICAL MULTIDEMULTIPLEXERS

1·7 Gbit/s multiplexing-demultiplexing system for a high-bit-rate optical link. M. Henry, P. Maheo, C. Thebault and J.C. Vergos p487
Broad-passband-width optical filter for multi/demultiplexer using a diffraction grating and a retroreflector prism. I. Nishi, T. Oguchi and K. Kato p423
Crosstalk limits of Fabry–Perot demultiplexers. S.R. Mallinson p759
Tunable birefringent wavelength-division multiplexer/demultiplexer. P. Melman, W.J. Carlsen and B. Foley p634
Tunable optical multi/demultiplexer for optical FDM transmission system. K. Inoue, H. Toba and K. Nosu p387
Wide-bandwidth, sharp-cutoff bandpass filter for WDM transmission. J. Minowa and Y. Fujii p915

OPTICAL PROCESSING

Optical processing technique for spot-size measurements in single-mode fibres. R. Caponi, G. Coppa, P. Di Vita and U. Rossi p56

OPTICAL RECEIVERS

ASK heterodyne receiver sensitivity measurements with two in-line 1·5 μm optical amplifiers. N.A. Olsson p1085
Phase-locked-loop analysis for pilot carrier coherent optical receivers. T.G. Hodgkinson p1202
SAGM avalanche photodiode optical receiver for 2 Gbit/s and 4 Gbit/s. B.L. Kasper, J.C. Campbell, A.H. Gnauck, A.G. Dentai and J.R. Talman p982

OPTICAL SENSORS

Combined Michelson and polarimetric fibre-optic interferometric sensor. M. Corke, J.D.C. Jones, A.D. Kersey and D.A. Jackson p148
Distributed optical fibre Raman temperature sensor using a semiconductor light source and detector. J.P. Dakin, D.J. Pratt, G.W. Bibby and J.N. Ross p569
Microprocessor-based phase determination for high-resolution optical sensors. A. Bertholds and R. Dändliker p65
Neodymium-doped silica single-mode fibre lasers. R.J. Mears, L. Reekie, S.B. Poole and D.N. Payne p738
Optical fibre Faraday rotation current sensor with closed-loop operation. A.D. Kersey and A. Dandridge p464

OPTICAL SWITCHING

1 × *n* optical fibre switch. A. El Fatatry p618
Chirping in 1·55 μm vapour-phase-transport distributed feedback (VPTDFB) semiconductor lasers under picosecond gain switching and 4 GHz modulation. Chinlon Lin and T.L. Koch p958
Delay-triggered optical switching in twin-stripe IRW lasers. D. Maclean, I.H. White, J.E. Carroll and R.G. Plumb p999
Experimental application of LD switch modules to 256 Mbit/s optical time switching. T. Matsunaga and M. Ikeda p945
Fibre-optic interferometric tunable switch using the thermo-optic effect. A.C. Boucouvalas and G. Georgiou p512
Multiport optical fibre switch using a new hexagonal prism design. C.F. Buhrer p183
Optical time-division space switches using tree-structured directional couplers. K. Habara and K. Kikuchi p631
Tandem switching characteristics for laser diode optical switches. M. Ikeda p252

OPTICAL TRANSMISSION

110 km cost-effective transmission experiment at 140 Mbit/s using a 1·55 μm external-cavity BH laser. J.J. Bernard, S. Chalot, J. Mouchart, A. Doll, C. Coeurjolly and E. Leclerc p1222
180 Mbit/s, 35 km transmission over single-mode fibre using 1·3 μm edge-emitting LEDs. R.H. Saul, W.C. King, N.A. Olsson, C.L. Zipfel, B.H. Chin, A.K. Chin, I. Camlibel and G. Minneci p773

1·3 Gbit/s transmission over 107 km of dispersion-shifted monomode fibre using a 1·55 μm multimode laser. K.L. Monham, R. Plastow, A.C. Carter and R.C. Goodfellow p619
400 Mbit/s CMI transmission experiment using a 1·3 μm LED. K. Hagishima and J. Yamada p17
400 Mbit/s transmission experiment using two monolithic optoelectronic chips. T. Horimatsu, T. Iwama, Y. Oikawa, T. Touge, O. Wada and T. Nakagami p319
450 Mbit/s optical frequency-division-multiplexing transmission with an 11 GHz channel spacing. H. Toba, K. Inoue and K. Nosu p656
600 MHz optical signal transmission at the 3 μm band using a fluoride optical fibre and a superconducting detector. Y. Enomoto, Y. Ohishi, S. Takahashi and T. Murakami p219
678 Mbaud optical transmission experiment through 37 km of PCVD graded-index fibre. G. Appelhans, W. Lackas and G. Lampe p266
Analysis of reduced chirping of semiconductor lasers for improved single-mode-fibre transmission capacity. K. Petermann p1143
Bidirectional LED transmission on single-mode fibre in the 1300 and 1500 nm wavelength regions. M. Stern, J.L. Gimlett, L. Curtis, N.K. Cheung, M.B. Romeiser, W.C. Young and P.W. Shumate p928
Bidirectional transmission over 11 km of single-mode optical fibre at 34 Mbit/s using 1·3 μm LEDs and directional couplers. R.D. Hall, R.A. Betts and J.P. Moss p628
CW pumped Raman preamplifier in a 45 km-long fibre transmission system operating at 1·5 μm and 1 Gbit/s. J. Hegarty, N.A. Olsson and L. Goldner p290
Dispersion penalties for single-mode-fibre transmission using 1·3 and 1·5 μm LEDs. J.L. Gimlett, M. Stern, L. Curtis, W.C. Young, N.K. Cheung and P.W. Shumate p668
Dispersion reduction in single-mode-fibre links. D.S. Larner and V.A. Bhagavatula p1171
Effects of dispersion in a 565 Mbit/s optical fibre laboratory system. D.S. Larner p187
FSK heterodyne system experiments at 1·5 μm using a DFB laser transmitter. F. Mogensen, T.G. Hodgkinson and D.W. Smith p518
Frequency multiplexing in an optical system using a Mach–Zehnder waveguide frequency translator. G.R. Hill, R.A. Lobbett and W.A. Stallard p1214
Guided-wave optical wavelength-division multi/demultiplexer using high-silica channel waveguides. M. Kawachi, Y. Yamada, M. Yasu and M. Kobayashi p314
High reliability of 1·5 μm two-step VPE-LPE-grown DC-PBH lasers. S. Sugou, H. Nishimoto, M. Kitamura, I. Mito and T. Yanase p1154
Jitter accumulation in optical transmission systems. J.H. Wilbrod and J. Moulu p740
Limits to power transmission in optical fibres. K.C. Byron and G.D. Pitt p850 e1003
Loss-limited transmission at 140 Mbit/s over 30 km of single-mode fibre using a 1·3 μm LED. L.W. Ulbricht, M.J. Teare, R. Olshansky and R.B. Lauer p860
Measurement of the Raman crosstalk at 1·5 μm in a wavelength-division-multiplexed transmission system. J. Hegarty, N.A. Olsson and M. McGlashan-Powell p395
Observation of modal noise in single-mode-fibre transmission systems. N.K. Cheung, A. Tomita and P.F. Glodis p5
Operation trial of 400 Mbit/s submarine optical transmission system. S. Tsutsumi, I. Kitazawa, H. Kimoto and O. Kawata p182
Optical polarisation control utilising an optical heterodyne detection scheme. T. Imai, K. Nosu and H. Yamaguchi p52
Screening by aging test for highly reliable laser diodes. O. Fujita, Y. Nakano and G. Iwane p1172
Transmission experiments at 560 Mbit/s and 140 Mbit/s using single-mode fibre and 1300 nm LEDs. J.L. Gimlett, M. Stern, R.S. Vodhanel, N.K. Cheung, G.K. Chang, H.P. Leblanc, P.W. Shumate and A. Suzuki p1198
Transmission loss behaviour of PCVD fibres in H_2 atmosphere. H. Wehr and F. Weling p852
Transmission of 140 Mbit/s signals over single-mode fibre using surface- and edge-emitting 1·3 μm LEDs. P.W. Shumate, J.L. Gimlett, M. Stern, M.B. Romeiser and N.K. Cheung p522
Transmission over 107 km of dispersion-shifted fibre at 16 Mbit/s using a 1·55 μm edge-emitting source. R. Plastow, K.L. Monham, A.C. Carter, J.E. Ritter, T.D. Croft and M. Gibson p369
Tunable optical multi/demultiplexer for optical FDM transmission system. K. Inoue, H. Toba and K. Nosu p387
Water propagation blocking properties of submarine optical fibre cable. N. Yoshizawa, M. Ohnishi, K. Ishihara and Y. Negishi p796
Wide-bandwidth, sharp-cutoff bandpass filter for WDM transmission. J. Minowa and Y. Fujii p915

OPTICAL WAVEGUIDES

100 ps waveguide multiple quantum well (MQW) optical modulator with 10:1 on/off ratio. T.H. Wood, C.A. Burrus, R.S. Tucker, J.S. Weiner, D.A.B. Miller, D.S. Chemla, T.C. Damen, A.C. Gossard and W. Wiegmann p693
Antireflection coatings on lithium niobate waveguide devices using electron beam evaporated yttrium oxide. G. Eisenstein, S.K. Korotky, L.W. Stulz, J.J. Veselka, R.M. Jopson and K.L. Hall p363
Calculation of approximate propagation characteristics for any given two-dimensional optical waveguide. L.M. Walpita p1074
Growth of thin-film lithium niobate by molecular beam epitaxy. R.A. Betts and C.W. Pitt p960
High-silica single-mode optical reflection bending and intersecting waveguides. A. Himeno, M. Kobayashi and H. Terui p1020
Hybrid integration of a laser diode and high-silica multimode optical channel waveguide on silicon. H. Terui, Y. Yamada, M. Kawachi and M. Kobayashi p646
Low-loss GaAs/GaAlAs strip-loaded waveguides with high coupling efficiency to single-mode fibres. S.H. Lin, S.Y. Wang, S.A. Newton and Y.M. Houng p597
New approach to lossy optical waveguides. D. Yevick and B. Hermansson p1029
Novel simple method for determination of refractive index of optical monomode slab waveguides. C. Bornholdt, J. Krauser and H.-P. Nolting p706
Numerical solution of silicon-clad diffused planar optical waveguides. M. Koshiba, H. Kumagami and M. Suzuki p340
Polarisation modulation in long couplers. J.D. Love and M. Hall p519
Proton exchange in MgO-doped $LiNbO_3$. J.L. Jackel p509
Simple and accurate loss measurement technique for semiconductor optical waveguides. R.G. Walker p581 e714
Simple technique for measuring attenuation of integrated optical waveguides. N. Nourshargh, E.M. Starr, N.I. Fox and S.G. Jones p818
Vectorial wave analysis of optical waveguides with rectangular cross-section using equivalent network approach. M. Koshiba and M. Suzuki p1026

OPTICS

100 ps waveguide multiple quantum well (MQW) optical modulator with 10:1 on/off ratio. T.H. Wood, C.A. Burrus, R.S. Tucker, J.S. Weiner, D.A.B. Miller, D.S. Chemla, T.C. Damen, A.C. Gossard and W. Wiegmann p693
Achievement of shot-noise-limited sensitivity and 50 dB dynamic range by photon-counting receiver using Si avalanche photodiode. K. Kikuchi, T. Okoshi and A. Hirose p801
All-fibre sensing loop using pulse-modulated light-emitting diode. G. Adamovsky p922
Analysis of reduced chirping of semiconductor lasers for improved single-mode-fibre transmission capacity. K. Petermann p1143
Automatic manufacture of polished single-mode-fibre directional coupler. S.T. Nicholls p825
Biconical taper coaxial coupler filter. A.C. Boucouvalas and G. Georgiou p1033
Biconical taper coaxial optical fibre coupler. A.C. Boucouvalas and G. Georgiou p864
Bulk optical isolator tunable from 1·2 μm to 1·7 μm. R.M. Jopson, G. Eisenstein, H.E. Earl and K.L. Hall p783
Chirping in 1·55 μm vapour-phase-transport distributed feedback (VPTDFB) semiconductor lasers under picosecond gain switching and 4 GHz modulation. Chinlon Lin and T.L. Koch p958
Coherent pulse generation by active modelocking of a GaAlAs laser in a Selfoc lens extended resonator. T.E. Dimmick, P.-T. Ho and G.L. Burdge e124
Combined Michelson and polarimetric fibre-optic interferometric sensor. M. Corke, J.D.C. Jones, A.D. Kersey and D.A. Jackson p148
Contribution of spontaneous emission to the linewidth of an injection-locked semiconductor laser. P. Gallion, H. Nakajima, G. Debarge and C. Chabran p626
Controllable nonreciprocal optical phase shifter. L. Solymar and T. Wilson p234
Delay-triggered optical switching in twin-stripe IRW lasers. D. Maclean, I.H. White, J.E. Carroll and R.G. Plumb p999
Dependence of single-longitudinal-mode probability on DFB laser facet structure. T. Matsuoka, Y. Yoshikuni and G. Motosugi p1151
Effect of nonlinear gain on the bandwidth of semiconductor lasers. R. Olshansky, D.M. Fye, J. Manning and C.B. Su p721
Effect of photon lifetime on absorptive bistability in inhomogeneously pumped lasers. M.C. Perkins, R.F. Ormondroyd and T.E. Rozzi p857
Effective calculation method for laser-diode/multimode-fibre coupling. K. Kawano, H. Miyazawa and O. Mitomi p609
Evaluation of axial fibre strain based on the stimulated four-photon mixing process. T. Nakashima, N. Shibata, M. Ohashi and S. Seikai p935
Experimental application of LD switch modules to 256 Mbit/s optical time switching. T. Matsunaga and M. Ikeda p945
FM noise suppression and linewidth reduction in an injection-locked semiconductor laser. F. Mogensen, H. Olesen and G. Jacobsen p696
Fibre-optic interferometric tunable switch using the thermo-optic effect. A.C. Boucouvalas and G. Georgiou p512
Frequency multiplexing in an optical system using a Mach–Zehnder waveguide frequency translator. G.R. Hill, R.A. Lobbett and W.A. Stallard p1214
High-power operation of DCPBH lasers emitting at 1·52 μm wavelength. D. Renner, A.J. Collar, P.D. Greene and G.D. Henshall p1006
High-silica single-mode optical reflection bending and intersecting waveguides. A. Himeno, M. Kobayashi and H. Terui p1020
Linewidth broadening and mode splitting due to weak feedback in single-frequency 1·5 μm lasers. R.W. Tkach and A.R. Chraplyvy p1081
Linewidth determination from electrical noise measurements on semiconductor lasers. P.A. Andrekson, P. Andersson and A. Alping p1097
Linewidth of 1·3 μm cleaved-coupled-cavity lasers. G.D. Boyd, C.E. Soccolich, J.E. Bowers, T.L. Koch, C.A. Burrus and R.M. Jopson p1129
Linewidth reduction of cleaved-coupled-cavity lasers by optical feedback from a single-mode polarisation-preserving fibre external cavity. Y.K. Jhee, K.-Y. Liou, C.A. Burrus and K.L. Hall p1146
Long-range 1·5 μm OTDR in a single-mode fibre using a D_2 gas-in-glass laser (100 km) or a semiconductor laser (60 km). J. Stone, A.R. Chraplyvy and B.L. Kasper p541
Loss of temporal coherence due to fibre chromatic dispersion. N. Shibata, M. Tsubokawa, Y. Kimura and S. Seikai p1087
Low-loss GaAs/GaAlAs strip-loaded waveguides with high coupling efficiency to single-mode fibres. S.H. Lin, S.Y. Wang, S.A. Newton and Y.M. Houng p597
Measurement of Rayleigh backscatter-induced linewidth reduction. J. Mark, E. Bødtker and B. Tromborg p1008
Microprocessor-based phase determination for high-resolution optical sensors. A. Bertholds and R. Dändliker p65
Mode stability in real index-guided semiconductor laser arrays. J.E.A. Whiteaway, G.H.B. Thompson and A.R. Goodwin p1194
Narrow-linewidth fibre-external-cavity injection lasers. K.-Y. Liou, Y.K. Jhee, C.A. Burrus, K.L. Hall and P.J. Anthony p933
New approach to lossy optical waveguides. D. Yevick and B. Hermansson p1029
New field measurement system for single-mode fibre dispersion utilising wavelength division multiplexing technique. W.H. Hatton and M. Nishimura p1072
New method to measure facet reflectivity of antireflection (AR)-coated laser diodes and LEDs. J. Wang p929
Novel simple method for determination of refractive index of optical monomode slab waveguides. C. Bornholdt, J. Krauser and H.-P. Nolting p706
Optical circulator consisting of a YIG spherical lens, PANDA-fibre polarisers and a fibre-optic polarising beam splitter. I. Yokohama, K. Okamoto and J. Noda p746
Optical spectra and the system performance of 1·55 μm DFB lasers. C.-Y. Kuo and M. Dixon p1225
Optical system for real-time processing of multiple matrix product. H. Nakano and K. Hotate p435
Optical time-division space switches using tree-structured directional couplers. K. Habara and K. Kikuchi p631
Optical-fibre Fabry-Perot interferometer with finesse of 300. J. Stone p504
Passive 3-branch optical power divider by K^+-ion exchange in glass. M. Haruna, M. Belanger and G.L. Yip p535
Phased array of AlGaAs multistripe index-guided lasers. N. Kaneno, T. Kadowaki, J. Ohsawa, T. Aoyagi, S. Hinata, K. Ikeda and W. Susaki p780
Polarisation modulation in long couplers. J.D. Love and M. Hall p519
Possible fused fibre in-phase/quadrature measuring multiport. A.R.L. Travis and J.E. Carroll p954
Role of Petermann's *K*-factor in semiconductor laser oscillators. J. Arnaud p538
Single-mode fibre Fourier transform spectrometer. A.D. Kersey, A. Dandridge, A.B. Tveten and T.G. Giallorenzi p463

Stabilisation of external optical feedback phase in a semiconductor laser. S.K. Jain and S. Ezekiel p957
Statistical characteristics of a laser diode exposed to Rayleigh backscatter from a single-mode fibre. J. Mark, E. Bødtker and B. Tromborg p1010
Tandem switching characteristics for laser diode optical switches. M. Ikeda p252
Time division multiplexed OTDR system. T. Kimura, H. Shimizu, H. Miyagi and K. Noda p1070
Tripie-stripe phase-locked diode lasers emitting 100 mW CW with single-lobed far-field patterns. J. Ohsawa, S. Hinata, T. Aoyagi, T. Kadowaki, N. Kaneno, K. Ikeda and W. Susaki p779
Variable-grating-mode liquid crystals for fibre-optic applications. G.L. Tangonan p701
Wavelength fluctuations in pulsed variable spacing phase-locked laser diode arrays. P.L. Fuhr p697
Wavelength-flattened fused couplers. D.B. Mortimore p742

OPTOELECTRONICS

400 Mbit/s transmission experiment using two monolithic optoelectronic chips. T. Horimatsu, T. Iwama, Y. Oikawa, T. Touge, O. Wada and T. Nakagami p319
All optical multiple-quantum-well waveguide switch. P. Li Kam Wa, J.E. Sitch, N.J. Mason, J.S. Roberts and P.N. Robson p26
Antireflection coatings on lithium niobate waveguide devices using electron beam evaporated yttrium oxide. G. Eisenstein, S.K. Korotky, L.W. Stulz, J.J. Veselka, R.M. Jopson and K.L. Hall p363
Bit error rate evaluation of optical signals amplified via stimulated Raman process in an optical fibre. Y. Aoki, S. Kishida, K. Washio and K. Minemura p191
GaInAs PIN photodiodes grown by atmospheric-pressure MOVPE. A.W. Nelson, S. Wong, S. Ritchie and S.K. Sargood p838
High-speed GaInAs Schottky photodetector. N. Emeis, H. Schumacher and H. Beneking p180
High-speed long-wavelength optical modulation in InGaAs/InAlAs multiple quantum wells. K. Wakita, Y. Kawamura, Y. Yoshikuni, H. Asahi and S. Uehara p951
Improved frequency response of InP/InGaAsP/InGaAs avalanche photodiodes with separate absorption, grading and multiplication regions. W.S. Holden, J.C. Campbell, J.F. Ferguson, A.G. Dentai and Y.K. Jhee p886
Long-span optical transmission experiment over 222·8 km of commercial monomode fibre at 140 Mbit/s and 1·525 μm. L. Bickers, L.C. Blank and S.D. Walker p267
Measurement of 1·3 and 1·55 μm gain-switched semiconductor laser pulses with a picosecond IR streak camera and a high-speed InGaAs PIN photodiode. C. Lin and J.E. Bowers p1200
Optical flip-flop. J.M. Liu and Y.C. Chen p236
Optical time domain reflectometer using a photon-counting InGaAs/InP avalanche photodiode at 1·3 μm. B.F. Levine, C.G. Bethea, L.G. Cohen, J.C. Campbell and G.D. Morris p83
Two-dimensional *E*-field mapping with subpicosecond temporal resolution. K.E. Meyer and G.A. Mourou p568

OSCILLATORS

110 GHz GaAs FET oscillator. H.Q. Tserng and B. Kim p178
Extended-range parallel-path *RC* oscillator synthesis: a state-variable approach. U.S. Ganguly p1048
Fast amplitude control in twin-*T* bridge *RC* oscillators. I.M. Filanovsky and G.J. Fortier p791
General equation for quasisinusoidal oscillators. A. Buonomo, C. Di Bello and O. Greco p912
High-efficiency Ka- and Ku-band MESFET oscillators. D.H. Evans p254
New *RC*-active oscillator configuration employing unity-gain amplifiers. R. Senani p889
New design of a dual-mode quartz crystal oscillator. M. Mourey and J.L. Vaterkowski p184
New insulated-gate inverted-structure AlGaAs/GaAs/*n*-AlGaAs HEMT ring oscillator. H. Kinoshita, T. Ishida, M. Akiyama, H. Inomata, Y. Sano, S. Nishi and K. Kaminishi p1062
Ultra-high-speed ring oscillators based on self-aligned-gate modulation-doped n^+-(Al, Ga)As/GaAs FETs. N.C. Cirillo, J.K. Abrokwah, A.M. Fraasch and P.J. Vold p772

PHASE MODULATION

Easy calculation of power spectra for multi-*h* phase-coded signals. M. Luise p608 e661

PHASE SHIFTERS

Millimetre-wave dielectric waveguide ferrite phase shifter with longitudinal magnetisation. R. Glöckler p827
Precise control of Reggia–Spencer phase shifter. P. Kölzer p868
Single PIN diode X-band phase shifter. C.E. Free and C.S. Aitchison p128
Voltage variable microwave phase shifter. R.E. Neidert and C.M. Krowne p636

PHASE-LOCKED LOOPS

Phase-locked-loop analysis for pilot carrier coherent optical receivers. T.G. Hodgkinson p1202

PHASE-SHIFT KEYING

Method for the generation of *M*-ary constant-envelope PSK signals. C. Mantakas, K. Dagakis and V. Zacharopoulos p676
Stabilised PSK transmitter with negative electrical feedback to a semiconductor laser. G. Wenke and S. Saito p653

PHOTOCONDUCTING DEVICES

Dark noise of $Ga_{0\cdot47}In_{0\cdot53}As$ photoconductive detectors. A. Antreasyan, C.Y. Chen and P.A. Garbinski p1136
InGaAs photoconductor failure observation. S. Loualiche, V. Parguel, H. L'Haridon, L. Henry and C. Vaudry p1101
Photorefractive determination of the sign of photocarriers in InP and GaAs. A.M. Glass, M.B. Klein and G.C. Valley p220

PHOTODETECTORS

20 GHz bandwidth InGaAs photodetector for long-wavelength microwave optical links. J. Schlafer, C.B. Su, W. Powazinik and R.B. Lauer p469
Achievement of shot-noise-limited sensitivity and 50 dB dynamic range by photon-counting receiver using Si avalanche photodiode. K. Kikuchi, T. Okoshi and A. Hirose p801
Bit rate dependence of receiver sensitivities in $Ga_{0\cdot47}In_{0\cdot53}As$ photoconductive detectors. C.Y. Chen, P.A. Garbinski and B.L. Kasper p273
InGaAs PIN photodetectors with modulation response to millimetre wavelengths. J.E. Bowers, C.A. Burrus and R.J. McCoy p812
Ultra-low-capacitance flip-chip-bonded GaInAs PIN photodetector for long-wavelength high-data-rate fibre-optic systems. R.S. Sussmann, R.M. Ash, A.J. Moseley and R.C. Goodfellow p593

PHOTODIODES

GaInAs PIN photodiodes grown by atmospheric-pressure MOVPE. A.W. Nelson, S. Wong, S. Ritchie and S.K. Sargood p838
Improved very-high-speed packaged InGaAs PIN punch-through photodiode. C.A. Burrus, J.E. Bowers and R.S. Tucker p262
Measurement of 1·3 and 1·55 μm gain-switched semiconductor laser pulses with a picosecond IR streak camera and a high-speed InGaAs PIN photodiode. C. Lin and J.E. Bowers p1200
Monolithic InGaAs photodiode array illuminated through an integrated waveguide. R. Trommer p382
Planar InGaAs PIN photodiode with a semi-insulating InP cap layer. J.C. Campbell, A.G. Dentai, G.J. Qua, J. Long and V.G. Riggs p447
Planar monolithic integration of a Schottky photodiode and a GaAs field-effect transistor for 0·8 μm-wavelength applications. H. Verriele, S. Maricot, M. Constant, J. Ramdani and D. Decoster p878
SAGM avalanche photodiode optical receiver for 2 Gbit/s and 4 Gbit/s. B.L. Kasper, J.C. Campbell, A.H. Gnauck, A.G. Dentai and J.R. Talman p982
Use of transparent indium tin oxide to form a highly efficient 20 GHz Schottky barrier photodiode. D.G. Parker p778

PHOTOELECTRIC DEVICES

1·52 μm room-temperature photon-counting optical time domain reflectometer. B.F. Levine, C.G. Bethea and J.C. Campbell p194
20 GHz bandwidth InGaAs photodetector for long-wavelength microwave optical links. J. Schlafer, C.B. Su, W. Powazinik and R.B. Lauer p469
Dark noise of $Ga_{0\cdot47}In_{0\cdot53}As$ photoconductive detectors. A. Antreasyan, C.Y. Chen and P.A. Garbinski p1136
GaAlAs/GaAs heterojunction bipolar phototransistors grown by LPE with a current gain of 50 000. A. Cazarre, J. Tasselli, A. Marty, J.P. Bailbe and G. Rey p1124
Improved very-high-speed packaged InGaAs PIN punch-through photodiode. C.A. Burrus, J.E. Bowers and R.S. Tucker p262
InGaAs photodiodes prepared by low-pressure MOCVD. P. Poulain, M. Razeghi, K. Kazmierski, R. Blondeau and P. Philippe p441
Low dark current InGaAs PIN photodiodes grown by molecular beam epitaxy. P. Cinguino, F. Genova, C. Rigo and A. Stano p139
Monolithic InGaAs photodiode array illuminated through an integrated waveguide. R. Trommer p382
Nonequilibrium devices for infra-red detection. T. Ashley and C.T. Elliott p451
Novel high-speed $In_{0\cdot53}Ga_{0\cdot47}As/InP$ lateral phototransistor. N. Chand, P.A. Houston and P.N. Robson p308
Planar InGaAs PIN photodiode with a semi-insulating InP cap layer. J.C. Campbell, A.G. Dentai, G.J. Qua, J. Long and V.G. Riggs p447

PHOTOTRANSISTORS

Heterojunction phototransistors on *n*-channelled semi-insulating InP substrates. U. Koren, T.C. Penna and P.K. Tien p346
Novel high-speed $In_{0\cdot53}Ga_{0\cdot47}As/InP$ lateral phototransistor. N. Chand, P.A. Houston and P.N. Robson p308

PIEZOELECTRIC TRANSDUCERS

Improved noninvasive 'fibredyne' highway based on polarimetric detection of strain in polarisation-maintaining fibres. J.P. Dakin and D.J. Pratt p1224

PLANAR ANTENNAS

94 GHz dielectric slab-line leaky-wave antenna. B. Huder p536
Broadband circularly polarised planar array composed of a pair of dielectric resonator antennas. M. Haneishi and H. Takazawa p437
Exact expression for stored energies in the cavity volume of microstrip antennas. K. Mahdjoubi and C. Terret p1221
Theoretical investigation of a stripline planar antenna. Chen Jin-Guang and Shi Wen-Hong p674 e775

PLASMAS

Effect of crystal orientation on plasma-grown oxides of silicon. K.J. Barlow, A. Kiermasz and W. Eccleston 142

POLARISATION

Crosspolarisation and gain reduction due to sand or dust on microwave reflector antennas. S.O. Bashir and N.J. McEwan p379
Frequency scaling of depolarisation at centimetre and millimetre waves. H. Fukuchi, J. Awaka and T. Oguchi p10
Linearly birefringent fibres with zero polarisation-mode dispersion. K.S. Chiang p916
Measurements of crosspolarisation and gain reduction due to dust on a microwave reflector antenna. S.O. Bashir and N.J. McEwan p1141
Meteor burst polarisation trials. H. Nes p1132
New method for polarisation alignment of birefringent fibre with laser diode. Y. Ida, K. Hayashi, M. Jinno, T. Horii and K. Arai p18
New polarisation-control scheme for optical heterodyne receiver using two Faraday rotators. T. Okoshi, Y.H. Cheng and K. Kikuchi p787
New polarisation-state control device: rotatable fibre cranks. T. Okoshi, N. Fukaya and K. Kikuchi p895
Polarisation holding in long-length polarising fibres. M.J. Marrone p244
Radially anisotropic lightguide mode selector. R.J. Black, C. Veilleux, J. Bures and J. Lapierre p987

POLYNOMIALS

On common factors appearing in inversion of matrix transfer functions. M.B. Argoun p910

POWER SEMICONDUCTOR DEVICES

AlGaAs/GaAs heterojunction bipolar power transistors. B. Kim, H.Q. Tserng, S.K. Tiku and H.D. Shih p258

PULSE GENERATION

Bandwidth-limited picosecond pulse generation by hybrid mode-locking in a ring cavity GaAlAs laser. J. McInerney, L. Reekie and D.J. Bradley p117
Coherent pulse generation by active modelocking of a GaAlAs laser in a Selfoc lens extended resonator. T.E. Dimmick, P.-T. Ho and G.L. Burdge e124
Direct streak-camera observation of picosecond gain-switched optical pulses from a 1·5 μm semiconductor laser. I.H. White, D.F.G. Gallagher, M. Osiński and D. Bowley p197 e359

PULSE-CODE MODULATION

Bandwidth and signal-data compression using maximum specified error as control. A.M. Sandman p673
Conditional entropy encoding of log-PCM speech. H. Gharavi and R. Steele p475
Switched predictor adaptation of DPCM-AQB speech coder using an imbedded vector quantisation. V. Ramamoorthy p442

QUANTUM OPTICS

Electroabsorption on room-temperature excitons in InGaAs/InGaAlAs multiple quantum-well structures. K. Wakita, Y. Kawamura, Y. Yoshikuni and H. Asahi p338
Radiative efficiency in low-dimensional semiconductor structures. M.G. Burt and R.I. Taylor p733

RADAR

Adaptive radar detection. Qi-tu Zhang and S. Haykin p808
CFAR problems in Weibull clutter. T. Bucciarelli p318
Choice of PRF for error-tolerant range destaggering of radar targets. M. Piacentini p1128
Complex autocorrelation estimators in radar signal processing. S. Barbarossa, M. Capece and G. Picardi p752
Correlation measurements in precipitation at linear polarization using dual-channel radar. Y.M.M. Antar and A. Hendry p1052
Design criterion for inclined planar radomes on radar corner reflectors used for spaceborne SAR calibration. K.M. Keen p548
Detection of fixed targets embedded in log-normal clutter. T. Bucciarelli, G. Fedele and A. Forte p1140
Detection of sea-ice features using K_a-band radar. E.O. Lewis, S. Haykin and B.W. Currie p499
Monopulse angular accuracy for fluctuating targets. G. Fedele, M. Orsini and S. Strappaveccia p229
Picosecond semiconductor laser radar with optical amplifier. A. Alping, P. Andersson and S.T. Eng p126
Practical frequency source for use in agile radars. M.F. Lewis p1017
Prediction of slant-path rain crosspolarisation discrimination ratio and phase using dual-polarisation radar data. J.P.V. Poiares Baptista and N.J. McEwan p460
Target decomposition theorems in radar scattering. S.R. Cloude p22

RADAR CROSS-SECTIONS

Design criterion for inclined planar radomes on radar corner reflectors used for spaceborne SAR calibration. K.M. Keen p548

RADAR RECEIVERS

Monopulse angular accuracy for fluctuating targets. G. Fedele, M. Orsini and S. Strappaveccia p229

RADIATION AND RADIATION EFFECTS

Linearity of *p*MOS radiation dosimeters operated at zero bias. A. Holmes-Siedle, L. Adams, B. Pauly and S. Marsden p570
Reduction of sidelobe level by improved strut design for low *F/D* Cassegrain antennas. G. Schindler p203

RADIO LINKS

Attenuation in melting snow on microwave- and millimetre-wave terrestrial radio links. Y.M. Jain and P.A. Watson p68
Field test measurement for 920 MHz transmitter diversity. S. Ogose p159
Variable-delay, sine/cosine noncoherent detector. W. Rafferty and G.J. Saulnier p586

RADIOASTRONOMY

Compact, cranked-dipole feed for efficient illumination of small *F/D* paraboloids. J.A. Battilana p768

RADIOCOMMUNICATION

Path loss characteristics of 60 GHz transmissions. N.D. Hawkins, R. Steele, D.C. Rickard and C.R. Shepherd p1054

RADIOWAVE PROPAGATION

Amplitude scintillation cycles in a SIRIO satellite–earth link. U. Merlo, E. Fionda and P.G. Marchetti p1094
Fast-fading characterisation in urban mobile propagation at 855 MHz in Paris. P. Olivier and J. Tiffon p830
Frequency scaling of depolarisation at centimetre and millimetre waves. H. Fukuchi, J. Awaka and T. Oguchi p10
Measurement and prediction of digital radio performance on a long overwater path. J. Steel, J.C. Campbell and L. Davey p1212
Measurement of atmospheric millimetre-wave phase scintillations in an absorption region. J.R. Blakey, R.S. Cole, A.D. Sarma and L. Silva Mello p486
Novel RF magnetic probe using LED linked with optical fibre. K. Hayashi, Y. Ida and K. Arai p107
Outage probability in a mobile radio system subject to fading and shadowing. A.G. Williamson and J.D. Parsons p622
Path loss characteristics of 60 GHz transmissions. N.D. Hawkins, R. Steele, D.C. Rickard and C.R. Shepherd p1054
Results of a 12 GHz radiometric experiment in Hong Kong. J.E. Allnutt and S.A.J. Upton p1217
Some practical considerations for depolarisation compensation in 14/11 and 14/12 GHz communications satellite systems. D.V. Rogers and J.E. Allnutt p1093
Two-dimensional probability distribution of attenuation and depolarisation on earth-space path. H. Fukuchi p445
Variability of worst-month quotient *Q*. A. Mawira p1073

RAIN

Extrapolation of point rain-rate distributions. T.-S. Chu and J.A. Schecker p754
Frequency and polarisation scaling of microwave attenuation during rainfall. R.S. Butler p826
Frequency scaling of depolarisation at centimetre and millimetre waves. H. Fukuchi, J. Awaka and T. Oguchi p10
Prediction of slant-path rain crosspolarisation discrimination ratio and phase using dual-polarisation radar data. J.P.V. Poiares Baptista and N.J. McEwan p460

RANDOM-ACCESS MEMORIES

Alpha-particle-induced failure modes in dynamic RAMs. P.M. Carter and B.R. Wilkins p38

RECEIVERS

2400 bit/s DMSK modem for mobile satellite service. F. Davarian and J. Sumida p965
Digital communication receiver with integrated MAP synchronisation and ML demodulation. E. Del Re and R. Fantacci p862
Method of calculating minimum distance for suboptimum receivers. W. Holubowicz p892

REFLECTOR ANTENNAS

Crosspolarisation due to radial field components in reflector antennas. R.I. Henderson p617
Dual reflector synthesis for specified aperture power and phase. J.R. Bergmann, R.C. Brown and P.J.B. Clarricoats p820
Optimum shaping of reflector antennas for specified radiation patterns. R.C. Brown, P.J.B. Clarricoats and H. Zhou p1164
Reduction of sidelobe level by improved strut design for low *F/D* Cassegrain antennas. G. Schindler p203

RELIABILITY

Effective screen for fast aging InGaAsP BH lasers using electrical derivatives. M.M. Choy and C.E. Barnes p846
High reliability of 1·5 μm two-step VPE-LPE-grown DC-PBH lasers. S. Sugou, H. Nishimoto, M. Kitamura, I. Mito and T. Yanase p1154
Optically induced latch-up and other effects in CMOS UVEPROMs. D.J. Hinds and J.C.D. Stokoe p553
Screening by aging test for highly reliable laser diodes. O. Fujita, Y. Nakano and G. Iwane p1172

REMOTE SENSING

Amplitude scintillation cycles in a SIRIO satellite–earth link. U. Merlo, E. Fionda and P.G. Marchetti p1094
Correlation measurements in precipitation at linear polarisation using dual-channel radar. Y.M.M. Antar and A. Hendry p1052
Single-mode fibre Fourier transform spectrometer. A.D. Kersey, A. Dandridge, A.B. Tveten and T.G. Giallorenzi p463

REPEATERS

Automatic timing alignment for regenerative repeaters. S. Whitt p1122
Monolithic 2·1 Gbit/s decision circuit with a decision threshold ambiguity width of less than 10 mV. M. Suzuki and K. Hagimoto p844

RESISTORS

1/*f* noise in carbon resistors excited by pulse waveforms. Y. Ulgen p485
Platinum intermetallic resistors for GaAs-based circuits. S. Tiwari and W.H. Price p429

RESONATORS

Accurate resonant frequencies of cylindrical dielectric resonators using a simple analytical technique. R.K. Mongia and B. Bhat p479
FM noise and linewidth reduction in semiconductor laser weakly coupled to a single-mode fibre resonator. F. Favre and D. Le Guen p467
Note on frequency dependence of quality factor of cavity resonators. A. Sihvola p736

SATELLITE LINKS

2400 bit/s DMSK modem for mobile satellite service. F. Davarian and J. Sumida p965
Amplitude scintillation cycles in a SIRIO satellite–earth link. U. Merlo, E. Fionda and P.G. Marchetti p1094
Binary error probabilities on earth-space links subject to scintillation fading. O.P. Banjo and E. Vilar p296
New synchronisation method for satellite-switched time-division multiple-access systems. L.-K. Shark, T.J. Terrell and R.J. Simpson p547
Results of a 12 GHz radiometric experiment in Hong Kong. J.E. Allnutt and S.A.J. Upton p1217
Some practical considerations for depolarisation compensation in 14/11 and 14/12 GHz communications satellite systems. D.V. Rogers and J.E. Allnutt p1093

SCALING CIRCUITS

1 GHz 5 mA 128/129 GaAs prescaler IC. T. Takada, S. Saito, N. Kato and M. Idda p731

SCATTERING

Analysis of scattering by cylindrical struts of arbitrary cross-section. L.C. Da Silva and L.M.D. Henriques p42

Correlation measurements in precipitation at linear polarisation using dual-channel radar. Y.M.M. Antar and A. Hendry p1052

Scattering from finite extent frequency selective surfaces illuminated by arbitrary sources. R. Orta, R. Tascone and R. Zich p100

Target decomposition theorems in radar scattering. S.R. Cloude p22

SCHOTTKY-BARRIER DEVICES

High-quality GaAs Schottky diodes fabricated by strained layer epitaxy. P. Narozny and H. Beneking p1050

SEMICONDUCTOR DEVICES AND MATERIALS

1 GHz 5 mA 128/129 GaAs prescaler IC. T. Takada, S. Saito, N. Kato and M. Idda p731

10–30 GHz monolithic GaAs travelling-wave divider/combiner. H.Q. Tserng and P. Saunier p950

11 ps ring oscillators with submicrometre selectively doped heterostructure transistors. N.J. Shah, S.S. Pei, C.W. Tu, R.H. Hendel and R.C. Tiberio p151

1·55 μm InGaAsP low-threshold buried-crescent injection laser. W.H. Cheng, L. Perillo, S. Forouhar, O.K. Kim, C.L. Jiang and S.K. Sheem p832

1·6 GHz electroabsorption light modulation in InGaAsP/InP double heterostructures with strip-loaded planar waveguide. Y. Noda, M. Suzuki, Y. Kushiro and S. Akiba p1182

20 GHz bandwidth InGaAs photodetector for long-wavelength microwave optical links. J. Schlafer, C.B. Su, W. Powazinik and R.B. Lauer p469

2–20 GHz hybrid GaAs MESFET distributed amplifier. C. Venet and P. Baudet p376

50 nm line fabrication in 0·5 μm PMMA film on silicon substrates with a 20 kV e-beam. H. Yamashita and Y. Todokoro p645

661·7 nm room-temperature CW operation of AlGaInP double-heterostructure lasers with aluminium-containing quaternary active layer. K. Kobayashi, S. Kawata, A. Gomyo, I. Hino and T. Suzuki p1162

AlGaAs/GaAs heterojunction bipolar power transistors. B. Kim, H.Q. Tserng, S.K. Tiku and H.D. Shih p258

Au/TiN/WSi-gate self-aligned GaAs MESFETs using rapid thermal annealing method. K. Imamura, T. Ohnishi, M. Shigaki, N. Yokoyama and H. Nishi p804

Automated Hall effect profiler for electrical characterisation of semiconductors. N.D. Young and M.J. Hight p1044

Band-to-band Auger processes in 0·95 eV bandgap ($\lambda = 1{\cdot}3$ μm) $(Al_xGa_{1-x})_{0.48}In_{0.52}As$ lattice matched to InP. W. Bardyszewski and D. Yevick p58

Bit rate dependence of receiver sensitivities in $Ga_{0.47}In_{0.53}As$ photoconductive detectors. C.Y. Chen, P.A. Garbinski and B.L. Kasper p273

CMOS triode transconductor for continuous-time active integrated filters. J.L. Pennock p817

Calculation of maximum bulk electric field in high-voltage diodes with small and intermediate negative bevel angles. W.J. Perold p1191

Comparative reliability study of GaAs power MESFETs: mechanisms for surface-induced degradation and a reliable solution. J.M. Dumas, D. Lecrosnier, J. Paugam and C. Vuchener p115

Complementary circuit with AlGaAs/GaAs heterostructure MISFETs employing high-mobility two-dimensional electron and hole gases. T. Mizutani, S. Fujita and F. Yanagawa p1116

Cryogenic operation of pseudomorphic AlGaAs/InGaAs single-quantum-well MODFETs. W.T. Masselink, A. Ketterson, J. Klem, W. Kopp and H. Morkoç p937

Current instabilities in $Ga_{0.47}In_{0.53}As$ transferred-electron devices. W. Kowalsky and A. Schlachetzki p1192

Current/voltage characteristic of $CuInSe_2$ homojunctions. I. Shih and C.X. Qiu p350

Degradation mechanisms induced by temperature in power MESFETs. C. Canali, F. Fantini, L. Umena and E. Zanoni p600

Determination of drift mobility and carrier concentration in semiconductors using surface acoustic wave amplifier structure. H. Baudrand, T.E. Taha and M. Benslama p32

Disordering by Zn-diffusion of InGaAs/InAlAs MQW superlattice structure grown by MBE. Y. Kawamura, H. Asahi, A. Kohzen and K. Wakita p218

Double heterojunction GaAs/GaAlAs I^2L inverter. P. Narozny and H. Beneking p328

Double-resonance technique for C/V measurements of semiconductor devices. D. de Cogan and A. Alani p1153

Effect of crystal orientation on plasma-grown oxides of silicon. K.J. Barlow, A. Kiermasz and W. Eccleston 142

Effect of magnetic field on n^+nn^+ GaAs ballistic diode. S.C. Tiwari p286 d848

Effects of channel shapes on MOSFET hot-electron resistance. T.-Y. Huang p211

Effects of growth temperature and $[PH_3]/[In(C_2H_5)_3]$ on purity of epitaxial InP grown by metalorganic chemical vapour deposition. K. Uwai, O. Mikami and N. Susa p131

Electric-field-induced refractive index variation in quantum-well structure. H. Yamamoto, M. Asada and Y. Suematsu p579

Electroabsorption on room-temperature excitons in InGaAs/InGaAlAs multiple quantum-well structures. K. Wakita, Y. Kawamura, Y. Yoshikuni and H. Asahi p338

Enhanced performance of 2 μm N-MOSFETs in doubly recrystallised SOS films. R.L. Maddox and I. Golecki p154 d1002

Etched-coupled-cavity InGaAsP/InP lasers. K.-L. Chen and S. Wang p94

Etched-mirror unstable-resonator semiconductor lasers. R.R. Craig, L.W. Casperson, O.M. Stafsudd, J.J.J. Yang, G.A. Evans and R.A. Davidheiser p62

Experimental verification of a VMOS UHF power transistor model and design. M. Du Plessis and P. Rademeyer p881

Extremely uniform threshold voltage distribution of GaAs FET made on LEC-grown crystals. J. Kasahara, M. Arai and N. Watanabe p1040

Fabrication of MOSFETs in $Si/CaF_2/Si$ heteroepitaxial structures. T. Asano, Y. Kuriyama and H. Ishiwara p386

Fabrication of n^+ ledge channel structure for GaAs FETs with a single lithography step. H.M. Macksey and R.D. Hudgens p955

Fabrication of thin silicon-on-insulator films using laser recrystallisation. J.P. Colinge, H.K. Hu and S. Peng p1102

Fabrication of widegap-emitter Schottky-collector transistor using GaAlAs/InP. N. Emeis and H. Beneking p85

Four quadrant multiplier core with lateral bipolar transistor in CMOS technology. Z. Hong and H. Melchoir p72

Frequency chirp reduction in a 2·2 Gbit/s directly modulated InGaAsP semiconductor laser by CW injection. C. Lin, J.K. Andersen and F. Mengel p80

Frequency dependence of source access resistance of heterojunction field-effect transistor. C. Versnaeyen, A. Vanoverschelde, A. Cappy, G. Salmer and M. Schortgen p539

GaAlAs semiconductor diode laser 4-ary frequency shift key modulation at 100 Mbit/s. D. Welford and S.B. Alexander p12

GaAlAs/GaAs heterojunction bipolar phototransistors grown by LPE with a current gain of 50 000. A. Cazarre, J. Tasselli, A. Marty, J.P. Bailbe and G. Rey p1124

GaAs FET as a light transducer. W.D. Edwards p399

GaInAs PIN photodiodes grown by atmospheric-pressure MOVPE. A.W. Nelson, S. Wong, S. Ritchie and S.K. Sargood p838

Gain characteristics of a 1·5 μm DCPBH InGaAsP resonant optical amplifier. H.J. Westlake and M.J. O'Mahony p33

Gigahertz band GaAs monolithic limiting amplifier. Y. Akazawa, T. Wakimoto, H. Kikuchi, K. Kawarada, N. Kato and K. Ohwada p790

Heterojunction phototransistors on n-channelled semi-insulating InP substrates. U. Koren, T.C. Penna and P.K. Tien p346

High-efficiency Ka- and Ku-band MESFET oscillators. D.H. Evans p254

High-efficiency monolithic GaAs impatt diodes. B. Bayraktaroglu and H.D. Shih p259

High-power and high-speed GaAlAs-GaAs LEDs fabricated by MOCVD growth. K. Nitta, T. Komatsubara, H. Kinoshita, Y. Iizuka, M. Nakamura and T. Beppu p208

High-quality GaAs Schottky diodes fabricated by strained layer epitaxy. P. Narozny and H. Beneking p1050

High-speed GaInAs Schottky photodetector. N. Emeis, H. Schumacher and H. Beneking p180

High-temperature excitons and enhanced electroabsorption in InGaAs/InAlAs multiple quantum wells. K. Wakita, Y. Kawamura, Y. Yoshikuni and H. Asahi p574

High-temperature heavy-hole and light-hole excitons and well-width dependence of excitons in InGaAs/InAlAs multiple-quantum-well structures. Y. Kawamura, K. Wakita and H. Asahi p1168

Hot-hole-induced degradation in depletion-mode n-channel MOSFETs. I. Stoev, F. Bauer and P. Balk p30

Improvement of InP MISFET characteristics using infra-red lamp annealing. Y. Hirota, M. Okamura, T. Hisaki and O. Mikami p686

InGaAs PIN photodetectors with modulation response to millimetre wavelengths. J.E. Bowers, C.A. Burrus and R.J. McCoy p812

InGaAs junction FETs with frequency limit (MAG = 1) above 30 GHz. R. Schmitt and K. Heime p449

InGaAs photoconductor failure observation. S. Loualiche, V. Parguel, H. L'Haridon, L. Henry and C. Vaudry p1101

InGaAsP/InP multiquantum-well structure grown by MOCVD. M. Morisaki, M. Ogura, N. Hase and T. Kajiwara p164

Influence of source-drain series resistance on MOSFET field-effect mobility. B. Cabon-Till, G. Ghibaudo and S. Cristoloveanu p457

Inversion-mode InP MISFET using a photochemical phosphorus nitride gate insulator. Y. Hirota, T. Hisaki and O. Mikami p690

Lateral epitaxial overgrowth of silicon over recessed oxide. T.S. Jayadev, E. Okazaki, H. Petersen and M. Millman p327

Leakage at low electric fields in thin oxides. D.A. Baglee and M.C. Smayling p224

Linearity of pMOS radiation dosimeters operated at zero bias. A. Holmes-Siedle, L. Adams, B. Pauly and S. Marsden p570

Linewidth enhancement, frequency modulation and instabilities of gain-guided semiconductor lasers. J. Buus p1115

Logic performance of Si_3N_4-n GaAs quasinormally off MISFETs. A.J. Harrison and J.G. Swanson p976

Low threshold current operation of vapour-grown 650 nm-band InGaAsP/InGaP DH lasers. A. Usui, T. Matsumoto, M. Inai, I. Mito, K. Kobayashi and H. Watanabe p54

Low-noise HEMT fabricated by MOCVD. H. Takakuwa, Y. Kato, S. Watanabe and Y. Mori p125

Low-temperature epitaxial growth of GaAs on (100) silicon substrates. A. Christou, B.R. Wilkins and W.F. Tseng p406

Low-threshold-current CW operation of 1·5 μm GaInAsP/InP bundle-integrated-guide distributed-Bragg-reflector (BIG-DBR) lasers. Y. Tohmori, K. Komori, S. Arai and Y. Suematsu p743

Measurement of absorption coefficients of $Ga_{0.47}In_{0.53}As$ over the wavelength range 1·0–1·7 μm. D.A. Humphreys, R.J. King, D. Jenkins and A.J. Moseley p1187

Micromachining of three-dimensional silicon structures using photoelectrochemical etching. L. Tenerz and B. Hök p1207

Modelling DC characteristics of HEMTs. M.T. Abuelma'atti p69

Modulation-doped FET DCML comparator. J. Berenz, K. Nakano, T. Sato and K. Fawcett p242

Molecular-beam-epitaxy-grown single-longitudinal-mode GaAs-AlGaAs interferometric lasers on stepped-channelled substrates. J. Minghuang Hong, M.J. Werner, Yao-Hwa Wu and Shyh Wang p1138

Multiple monolayer adsorption—a new technique for the production of non-centrosymmetric films. R.H. Tredgold, C.S. Winter and Z.I. El-Badawy p554

Need for an explicit model describing MOS transistors in moderate inversion, The. M. Bagheri and C. Turchetti p873

New $v(E)$ relationship for GaAs. Y.-K. Feng p453 e824

New insulated-gate inverted-structure AlGaAs/GaAs/n-AlGaAs HEMT ring oscillator. H. Kinoshita, T. Ishida, M. Akiyama, H. Inomata, Y. Sano, S. Nishi and K. Kaminishi p1062

New technique for measuring small MOS gate currents. M. Garrigues and A. Pavlin p16

Novel method for calculating maximum bulk electric field in high-voltage diodes with large negative bevel angles. W.J. Perold p576

Numerical analysis of MOS transistor effective channel width. A.M. Asenov, E.N. Stefanov, B.Z. Antov and P.K. Vitanov p595

Observation of heavy-hole and light-hole excitons in InGaAs/InAlAs MQW structures at room temperature. Y. Kawamura, K. Wakita and H. Asahi p371

Observation of negative differential resistance in CHIRP superlattices. T. Nakagawa, H. Imamoto, T. Sakamoto, T. Kojima, K. Ohta and N.J. Kawai p882

Observation of second-harmonic generation from a Langmuir–Blodgett monolayer of a merocyanine dye. I.R. Girling, N.A. Cade, P.V. Kolinsky and C.M. Montgomery p169 e359
On-chip switching for DC parametric testing. A.J. Walton, J.M. Robertson, R. Holwill and B. Moore p422
Open-circuit voltage of induced/surface-doped junction solar cells. C.S. Hoi and Y.W. Lam p1157
Optically activated vibrations in a micromachined silica structure. S. Venkatesh and B. Culshaw p315
Optimised HEMT structure with an $Al_{0.45}Ga_{0.55}As$ spacer and an $Al_{0.20}Ga_{0.80}As$ doped region. J.C. Huang, G.W. Wicks, A.R. Calawa and L.F. Eastman p925
Photorefractive determination of the sign of photocarriers in InP and GaAs. A.M. Glass, M.B. Klein and G.C. Valley p220
Physical significance of scaling factor used in transport expressions of polycrystalline silicon. S.N. Singh, P.K. Singh and R. Kishore p21
Picosecond semiconductor laser radar with optical amplifier. A. Alping, P. Andersson and S.T. Eng p126
PnP-type InP/InGaAsP/InP bipolar transistor. L.M. Su, H. Schroeter-Janssen, K.C. Li and N. Grote p989
Postmetallisation annealing of aluminium-silicon gate MOS capacitors. I. McGillivray, J.M. Robertson and A.J. Walton p973
Radiative efficiency in low-dimensional semiconductor structures. M.G. Burt and R.I. Taylor p733
Reduction of geometric taper losses in the PCVD process. P. Geittner, H.J. Hagemann, J. Warnier, F. Weling and H. Wilson p870
Reproducible low-resistivity AuMn ohmic contact for *p*-type GaAs. C. Dubon-Chevallier, A.M. Duchenois, J.F. Bresse and D. Ankri p614
Required grading length to eliminate the heterojunction spike in *npn* $In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As/InP$ bipolar transistors. N. Chand and H. Morkoç p841
Se^+ ion implantation into encapsulated GaAs. M.A. Shahid, R. Gwilliam and B.J. Sealy p729
Selective etching characteristics of HF for $Al_xGa_{1-x}As$/GaAs. X.S. Wu, L.A. Coldren and J.L. Merz p558
Selectively implanted oxygen isolation technology (SIO). P. Ratnam and C.A.T. Salama p448
Self-aligned MESFETs by a dual-level double-lift-off substitutional gate (DDS) technique for high-speed low-power GaAs ICs. M.F. Chang, F.J. Ryan, R.P. Vahrenkamp and C.G. Kirkpatrick p354
Self-alignment a-Si FET by using a lift-off technique. H. Okada, Y. Uchida, Y. Watanabe and M. Matsumura p633
Semiconductor-platelet fibre-optic temperature sensor. M.M. Salour, G. Schoner, M. Kull and J.H. Bechtel p135
Shallow p^+ layers in $In_{0.53}Ga_{0.47}As$ by Hg implantation. H. L'Haridon, P.N. Favennec, M. Salvi and M. Razeghi p122
Sheet electron concentration at the heterointerface in $Al_{0.48}In_{0.52}As/Ga_{0.47}In_{0.53}As$ modulation-doped structures. T. Itoh, T. Griem, G.W. Wicks and L.F. Eastman p373
SiO_2/native-oxide double-gate InSb MOSFETs. T. Takahashi, O. Sugiura, I. Watanabe and M. Matsumura p545
SINFET: a new high conductance, high switching speed MOS-gated transistor, The. J.K.O. Sin and C.A.T. Salama p1134
Single-crystal silicon: a new material for 1·3 and 1·6 μm integrated-optical components. R.A. Soref and J.P. Lorenzo p953
Strained-quantum-well, modulation-doped, field-effect transistor. T.E. Zipperian and T.J. Drummond p823
Subpicosecond base transit time observed in a hot-electron transistor (HET). S. Muto, K. Imamura, N. Yokoyama, S. Hiyamizu and H. Nishi p555
Surface electrical breakdown and leakage current on semi-insulating InP. T. Kitagawa, H. Hasegawa and H. Ohno p299
Surface-oriented low-parasitic Mott diode for EHF mixer applications. U.K. Mishra, S.C. Palmateer, S.J. Nightingale, M.A.G. Upton and P.M. Smith p652
Tailored-gain broad-area semiconductor laser with single-lobed diffraction-limited far-field pattern. C. Lindsey, P. Derry and A. Yariv p671
Temperature measurement technique using Pt diffusion into Au for ion-implanting wafers mounted on a spinning disc. S. Nakashima, S. Kanamori and K. Izumi p1229
Temperature-dependent characteristics of MBE-grown GaAs p^+-v-p^+-v-n^+ regenerative switching device. C.Y. Chang, Y.H. Wang, W.C. Liu and S.A. Liao p24
Theoretical analysis of the nonlinear behaviour of a loss-free distributed amplifier. V. Paschalidou and C.S. Aitchison p108
Thermal donor and new donor generation in SOI material formed by oxygen implantation. S. Cristoloveanu, J. Pumfrey, E. Scheid, P.L.F. Hemment and R.P. Arrowsmith p802
Threshold modelling of MOSFETs for CAD of CMOS-VLSI. G.T. Wright p223
Threshold voltage adjustable process for self-aligned gate GaAs JFET. S.K. Tiku p1091
Tunnel diode theory. P.T. Landsberg and M.S. Abrahams p59
Tunnelling through very low barriers. P. Guéret, U. Kaufmann and E. Marclay p344
Two-dimensional array of GaInAsP/InP surface-emitting lasers. S. Uchiyama and K. Iga p162
Two-dimensional impurity profiling near the mask edge using anodisation. C.M. Kyung p587
Two-junction cascade solar cell incorporating a high-conductance, MOCVD-grown interconnecting junction. C.R. Lewis and R.T. Green p1111
Ultra-high doping levels of GaAs with beryllium by molecular beam epitaxy. J.L. Lievin and F. Alexandre p413
Ultra-high-speed ring oscillators based on self-aligned-gate modulation-doped n^+-(Al, Ga)As/GaAs FETs. N.C. Cirillo, J.K. Abrokwah, A.M. Fraasch and P.J. Vold p772
Ultra-low-noise, high-impedance preamp for cryogenic detectors. E.R. Brown p417
Use of transparent indium tin oxide to form a highly efficient 20 GHz Schottky barrier photodiode. D.G. Parker p778
Voltage variable microwave phase shifter. R.E. Neidert and C.M. Krowne p636
Waveguide formation in bulk GaAs and InP materials. D.J. Jackson and D.L. Persechini p44
Wide range wavelength tuning in 1·3 μm DBR-DC-PBH-LDs by current injection into the DBR region. M. Yamaguchi, M. Kitamura, S. Murata, I. Mito and K. Kobayashi p63
n^+ self-aligned-gate AlGaAs/GaAs heterostructure FET. T. Mizutani, K. Arai, K. Oe, S. Fujita and F. Yanagawa p638
p-channel GaAs SIS (semiconductor-insulator-semiconductor) FET. K. Matsumoto, M. Ogura, T. Wada, T. Yao, Y. Hayashi, N. Hashizume, M. Kato, T. Endo and H. Inage p580

SEMICONDUCTOR DOPING

Automated Hall effect profiler for electrical characterisation of semiconductors. N.D. Young and M.J. Hight p1044

SEMICONDUCTOR GROWTH

InGaAsP/InP multiquantum-well structure grown by MOCVD. M. Morisaki, M. Ogura, N. Hase and T. Kajiwara p164

SEMICONDUCTOR JUNCTIONS

Threshold voltage adjustable process for self-aligned gate GaAs JFET. S.K. Tiku p1091

SEMICONDUCTOR LASERS

15 GHz direct modulation bandwidth of vapour-phase regrown 1·3 μm InGaAsP buried-heterostructure lasers under CW operation at room temperature. C.B. Su, V. Lanzisera, R. Olshansky, W. Powazinik, E. Meland, J. Schlafer and R.B. Lauer p577
1·3 μm InGaAsP index-guided multirib waveguide laser array. N.K. Dutta, T. Cella, S.G. Napholtz and D.C. Craft p326
1·3 μm InP/InGaAsP channelled-substrate buried-heterostructure laser monolithically integrated with a photodetector. L.A. Koszi, A.K. Chin, B.P. Segner, T.M. Shen and N.K. Dutta p1209
1·5 μm phase-shifted DFB laser by EBX and mass-transport technique. S. Koentjoro, N. Eda, K. Furuya and Y. Suematsu p525
1·55 μm InGaAsP low-threshold buried-crescent injection laser. W.H. Cheng, L. Perilli, S. Forouhar, O.K. Kim, C.L. Jiang and S.K. Sheem p832
20 GHz active mode-locking of a 1·55 μm InGaAsP laser. R.S. Tucker, S.K. Korotky, G. Eisenstein, U. Koren, L.W. Stulz and J.J. Veselka p239
26·5 GHz bandwidth InGaAsP lasers with tight optical confinement. J.E. Bowers, B.R. Hemenway, T.J. Bridges, E.G. Burkhardt and D.P. Wilt p1090
661·7 nm room-temperature CW operation of AlGaInP double-heterostructure lasers with aluminium-containing quaternary active layer. K. Kobayashi, S. Kawata, A. Gomyo, I. Hino and T. Suzuki p1162
Active mode-locking of an InGaAsP 1·55 μm laser in a fibre resonator with an integrated single-mode-fibre output port. G. Eisenstein, R.S. Tucker, S.K. Korotky, U. Koren, J.J. Veselka, L.W. Stulz, R.M. Jopson and K.L. Hall p173
Analysis of reduced chirping of semiconductor lasers for improved single-mode-fibre transmission capacity. K. Petermann p1143
Analysis of transverse modes of phased-locked multistripe lasers. H. Fujii, U. Suemune and M. Yamanishi p713
Bandwidth-limited picosecond pulse generation by hybrid mode-locking in a ring cavity GaAlAs laser. J. McInerney, L. Reekie and D.J. Bradley p117
CW operation at $-10°C$ for InGaAlP visible light laser diodes grown by MOCVD. M. Ishikawa, Y. Ohba, H. Sugawara, M. Yamamoto and T. Nakanisi p1084
CW operation of 1·5 μm InGaAsP/InP BH lasers with a reactive-ion-etched facet. H. Saito, Y. Noguchi and H. Nagai p748
CW operation of a cleaved-coupled-cavity array of phase-locked GaAlAs lasers. R.K. DeFreez, T.L. Paoli, M. Bernstein and R.D. Burnham p241
Calculated field spectra of semiconductor lasers near threshold. K. Kikuchi p705
Characteristics of linewidth narrowing of a 1·5 μm DFB laser with a short GRIN-rod external coupled cavity. T.P. Lee, S.G. Menocal and H. Matsumura p655
Chirping in 1·55 μm vapour-phase-transport distributed feedback (VPTDFB) semiconductor lasers under picosecond gain switching and 4 GHz modulation. Chinlon Lin and T.L. Koch p958
Complementary self-aligned laser by metalorganic chemical vapour deposition. L.J. Mawst, G. Costrini, C.A. Zmudzinski, M.E. Givens, M.A. Emanuel and J.J. Coleman p903
Contribution of spontaneous emission to the linewidth of an injection-locked semiconductor laser. P. Gallion, H. Nakajima, G. Debarge and C. Chabran p626
Criteria for design of single-lobe phased-array diode lasers. W. Streifer, A. Hardy, R.D. Burnham, R.L. Thornton and D.R. Scifres p505
Dependence of linewidth enhancement factor α on waveguide structure in semiconductor lasers. K. Furuya p200
Dependence of semiconductor laser linewidth on measurement time: evidence of predominance of $1/f$ noise. K. Kikuchi and T. Okoshi p1011
Dependence of single-longitudinal-mode probability on DFB laser facet structure. T. Matsuoka, Y. Yoshikuni and G. Motosugi p1151
Direct frequency modulation of a semiconductor laser by acoustic waves. P.A. Greenhalgh and P.A. Davies p246 e359
Direct frequency modulation of a semiconductor laser by surface acoustic waves. P.A. Greenhalgh and P.A. Davies p598
Direct streak-camera observation of picosecond gain-switched optical pulses from a 1·5 μm semiconductor laser. I.H. White, D.F.G. Gallagher, M. Osiński and D. Bowley p197 e359
Dispersion of linewidth-broadening factor in 1·5 μm laser diodes. L.D. Westbrook p1018
Double heterostructure and multiquantum-well lasers at 1·5–1·7 μm grown by atmospheric pressure MOVPE. A.W. Nelson, R.H. Moss, J.C. Regnault, P.C. Spurdens and S. Wong p329
Dynamic line broadening of semiconductor lasers modulated at high frequencies. J. Buus p129
Effect of nonlinear gain on the bandwidth of semiconductor lasers. R. Olshansky, D.M. Fye, J. Manning and C.B. Su p721
Effect of photon lifetime on absorptive bistability in inhomogeneously pumped lasers. M.C. Perkins, R.F. Ormondroyd and T.E. Rozzi p857
Effective bandwidth for FM noise suppression in an injection-locked semiconductor laser. S. Saito, F. Mogensen and H. Olesen p1173
Effective screen for fast aging InGaAsP BH lasers using electrical derivatives. M.M. Choy and C.E. Barnes p846
Efficiency of unstable resonator semiconductor lasers. J. Salzman, R. Lang and A. Yariv p821
FM noise and linewidth reduction in semiconductor laser weakly coupled to a single-mode fibre resonator. F. Favre and D. Le Guen p467
FM noise suppression and linewidth reduction in an injection-locked semiconductor laser. F. Mogensen, H. Olesen and G. Jacobsen p696
Fabrication and performance characteristics of InGaAsP ridge-guide distributed-feedback multiquantum-well lasers. N.K. Dutta, T Wessel, N.A. Olsson, R.A. Logan, R. Yen and P.J. Anthony p571
Fundamental characteristics of an InGaAsP/InP laser transistor. J. Shibata, Y. Mori, Y. Sasai, N. Hase, H. Serizawa and T. Kajiwara p98
GaInAsP/InP surface emitting laser ($\lambda = 1{\cdot}4$ μm, 77 K) with heteromultilayer Bragg reflector. A. Chailertvanitkul, K. Iga and K. Moriki p303

Gain saturation effects in supermodes of phase-locked semiconductor laser arrays. J. Katz and W.K. Marshall p974
High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers. J.E. Bowers, T.L. Koch, B.R. Hemenway, D.P. Wilt, T.J. Bridges and E.G. Burkhardt p297
High-frequency modulation of 1·52 μm vapour-phase-transported InGaAsP lasers. J.E. Bowers, T.L. Koch, B.R. Hemenway, D.P. Wilt, T.J. Bridges and E.G. Burkhardt p392
High-performance DC-PBH lasers at 1·52 μm by a hybrid MOVPE/LPE process. A.W. Nelson, S. Wong, J.C. Regnault, R.E. Hobbs, D.L. Murrell and R.H. Walling p493
High-performance index-guided phase-locked semiconductor laser arrays. Y. Twu, K.-L. Chen, A. Dienes, S. Wang and J.R. Whinnery p324
High-power (575 mW) single-lobed emission from a phased-array laser. D.F. Welch, D. Scifres, P. Cross, H. Kung, W. Streifer, R.D. Burnham and J. Yaeli p603
High-power operation of DCPBH lasers emitting at 1·52 μm wavelength. D. Renner, A.J. Collar, P.D. Greene and G.D. Henshall p1006
High-power operation of index-guided inverted channel substrate planar (ICSP) lasers. J.J. Yang, C.S. Hong, J. Niesen and L. Figueroa p751
High-power, low-threshold BH lasers operating at 1·52 μm grown entirely by MOVPE. A.W. Nelson, W.J. Devlin, R.E. Hobbs, C.G.D. Lenton and S. Wong p888
High-speed large-signal digital modulation of a 1·3 μm InGaAsP constricted mesa laser at a simulated bit rate of 16 Gbit/s. Chinlon Lin and J.E. Bowers p906 e632
Improved high-power twin-channel laser with blocking layer. C.B. Morrison, L.M. Zinkiewicz, A. Burghard and L. Figueroa p337
Improved high-temperature performance of 1·52 μm InGaAsP laser diodes fabricated by two-step VPE and LPE. Y. Kato, T. Yanase, M. Kitamura, K. Nishi, M. Yamaguchi, H. Nishimoto, I. Mito and R. Lang p293
Improvement of side-mode suppression ratio of a single-mode SCC semiconductor laser. Zhou Bingkun, Wang Jianglin and Zhang Hanyi p877
InGaAsP/InP double heterostructure lasers grown by atmospheric-pressure MOCVD. R.D. Dupuis, H. Temkin and L.C. Hopkins p60
Influence of amplitude-phase coupling on the injection locking bandwidth of a semiconductor laser. P. Gallion and G. Debarge p264
Influence of doping on threshold current of semiconductor lasers. A. Haug p792
Intermodulation and harmonic distortion in InGaAsP lasers. T.E. Darcie, R.S. Tucker and G.J. Sullivan p665
Intrinsic lineshape and FM response of modulated semiconductor lasers. E. Eichen, P. Melman and W.H. Nelson p849
Linewidth broadening and mode splitting due to weak feedback in single-frequency 1·5 μm lasers. R.W. Tkach and A.R. Chraplyvy p1081
Linewidth determination from electrical noise measurements on semiconductor lasers. P.A. Andrekson, P. Andersson and A. Alping p1097
Linewidth enhancement, frequency modulation and instabilities of gain-guided semiconductor lasers. J. Buus p1115
Linewidth measurements of a 1·5 μm range DFB laser. M. Fujise and M. Ichikawa p231
Linewidth of 1·3 μm cleaved-coupled-cavity lasers. G.D. Boyd, C.E. Soccolich, J.E. Bowers, T.L. Koch, C.A. Burrus and R.M. Jopson p1129
Linewidth reduction of cleaved-coupled-cavity lasers by optical feedback from a single-mode polarisation-preserving fibre external cavity. Y.K. Jhee, K.-Y. Liou, C.A. Burrus and K.L. Hall p1146
Long-span optical transmission experiment over 222·8 km of commercial monomode fibre at 140 Mbit/s and 1·525 μm. L. Bickers, L.C. Blank and S.D. Walker p267
Longitudinal-mode behaviour of λ/4-shifted InGaAsP/InP DFB lasers. K. Utaka, S. Akiba, K. Sakai and Y. Matsushima p367
Low threshold GaAs/GaAlAs BH lasers with ion-beam-etched mirrors. N. Bouadma, J. Riou and A. Kampfer p566
Low-reflectivity semiconductor laser amplifier with 20 dB fibre-to-fibre gain at 1500 nm. M.J. O'Mahony, I.W. Marshall, W.J. Devlin and J.C. Regnault p501
Low-threshold 1·3 μm GaInAsP/InP lasers grown by atmospheric-pressure MOVPE. B. Rose, P. Devoldere, A. Mircea, D. Robein and M. Trotte p521
Low-threshold InGaAsP buried-crescent stop-cleaved lasers for monolithic integration. A. Antreasyan, C.J. Chen and K.A. Logan p404
Low-threshold MBE GaAs/AlGaAs quantum well lasers with dry-etched mirrors. M. Mannoh, T. Yuasa, K. Asakawa, K. Shinozaki and M. Ishi p769
Low-threshold operation of 1·54 μm InGaAsP/InP DFB laser with second-order grating. K. Wakao, K. Kihara, T. Tanahashi, H. Sudo, T. Kusunoki, H. Tabuchi, H. Ishikawa, S. Isozumi, S. Yamakoshi and H. Imai p321
Low-threshold-current CW operation of 1·5 μm GaInAsP/InP bundle-integrated-guide distributed-Bragg-reflector (BIG-DBR) lasers. Y. Tohmori, K. Komori, S. Arai and Y. Suematsu p743
Measured dynamic linewidth properties of a 1·5 μm DFB-GRIN-rod coupled-cavity laser under direct high-frequency modulation. T.P. Lee and S.G. Menocal p1046
Measured spectral linewidth of variable-gap cleaved-coupled-cavity lasers. T.P. Lee, C.A. Burrus and D.P. Wilt p53
Measurement of 1·3 and 1·55 μm gain-switched semiconductor laser pulses with a picosecond IR streak camera and a high-speed InGaAs PIN photodiode. C. Lin and J.E. Bowers p1200
Measurement of field spectra of 1·3 μm InGaAsP DFB lasers. K. Kikuchi and T. Okoshi p217
Measurement of linewidth broadening factor in gain-switched InGaAsP injection lasers by CHP method. M. Osiński, D.F.G. Gallagher and I.H. White p981
Measurement of nonlinear gain from FM modulation index of InGaAsP lasers. C.B. Su, V. Lanzisera and R. Olshansky p893
Measurement of optical bistability in an InGaAsP laser amplifier at 1·5 μm. H.J. Westlake, M.J. Adams and M.J. O'Mahony p992
Millimetre-wave response of InGaAsP lasers. J.E. Bowers p1195
Mode selectivity in DFB lasers with cleaved facets. J. Buus p179
Mode stability in real index-guided semiconductor laser arrays. J.E.A. Whiteaway, G.H.B. Thompson and A.R. Goodwin p1194
Molecular-beam-epitaxy-grown single-longitudinal-mode GaAs-AlGaAs interferometric lasers on stepped-channelled substrates. J. Minghuang Hong, M.J. Werner, Yao-Hwa Wu and Shyh Wang p1138
Narrow spectral linewidth characteristics of monolithic integrated-passive-cavity InGaAsP/InP semiconductor lasers. T. Fujita, J. Ohya, K. Matsuda, M. Ishino, H. Sato and H. Serizawa p374
Narrow-linewidth fibre-external-cavity injection lasers. K.-Y. Liou, Y.K. Jhee, C.A. Burrus, K.L. Hall and P.J. Anthony p933
New automatic control of returned light into frequency stabilised semiconductor laser. S. Shinohara, N. Inoue, H. Yoshida and M. Sumi p205
Optical spectra and the system performance of 1·55 μm DFB lasers. C.-Y. Kuo and M. Dixon p1225
Optimum operation of DFB lasers under chirped pulse transmission. Y. Yoshikuni, G. Motosugi, K. Kurumada and T. Ikegami p476
Phased array of AlGaAs multistripe index-guided lasers. N. Kaneno, T. Kadowaki, J. Ohsawa, T. Aoyagi, S. Hinata, K. Ikeda and W. Susaki p780
Polarisation-dependent gain-current relationship in InGaAs/InGaAlAs/InAlAs SCH-MQW laser diodes. K. Wakita, Y. Kawamura and H. Asahi p193
Reduction of laser chirp in 1·5 μm DFB lasers by modulation pulse shaping. L. Bickers and L.D. Westbrook p103
Role of Petermann's *K*-factor in semiconductor laser oscillators. J. Arnaud p538
Room-temperature CW operation of AlGaInP double-heterostructure visible lasers. K. Kobayashi, S. Kawata, A. Gomyo, I. Hino and T. Suzuki p931
Room-temperature GaInAsSb/AlGaAsSb DH injection lasers at 2·2 μm. C. Caneau, A.K. Srivastava, A.G. Dentai, J.L. Zyskind and M.A. Pollack p815
Single-lobe phased-array diode lasers. W. Streifer, A. Hardy, R.D. Burnham and D.R. Scifres p118
Single-lobe symmetric coupled laser arrays. K.-L. Chen and S. Wang p347
Single-longitudinal-mode condition for DFB lasers. G. Motosugi, Y. Yoshikuni and T. Ikegami p352
Single-mode operation of 1·55 μm semiconductor lasers using a volume holographic grating. P. Mills and R. Plastow p648
Spectral linewidth of a GRECC laser with added external cavity. K.-Y. Liou and C.A. Burrus p353
Spectral linewidth of external cavity semiconductor lasers with strong, frequency-selective feedback. R. Wyatt p658
Stabilisation of external optical feedback phase in a semiconductor laser. S.K. Jain and S. Ezekiel p957
Stripe-structure dependence of frequency modulation characteristics of AlGaAs lasers. K. Kikuchi, T. Fukushima and T. Okoshi p1088
Strong influence of nonlinear gain on spectral and dynamic characteristics of InGaAsP lasers. J. Manning, R. Olshansky, D.M. Fye and W. Powazinik p496
Subharmonic modulation distortions in semiconductor lasers with optical feedback. Y. Hirose, A. Ona and T. Fukuda p685
Tailored-gain broad-area semiconductor laser with single-lobed diffraction-limited far-field pattern. C. Lindsey, P. Derry and A. Yariv p671
Theoretical analysis of mode partition noise in single-frequency semiconductor lasers. T.M. Shen and G.P. Agrawal p1220
Triple-stripe phase-locked diode lasers emitting 100 mW CW with single-lobed far-field patterns. J. Ohsawa, S. Hinata, T. Aoyagi, T. Kadowaki, N. Kaneno, K. Ikeda and W. Susaki p779
Two-dimensional array of GaInAsP/InP surface-emitting lasers. S. Uchiyama and K. Iga p162
Very low threshold current ridge-waveguide AlGaAs/GaAs single-quantum-well lasers. O. Wada, T. Sanada, M. Kuno and T. Fujii p1025
Wavelength fluctuations in pulsed variable spacing phase-locked laser diode arrays. P.L. Fuhr p697
Wide-bandwidth modulation of three-channel buried-crescent laser diodes. U. Koren, G. Eisenstein, J.E. Bowers, A.H. Gnauck and P.K. Tien p500

SEMICONDUCTOR STORAGE DEVICES

Novel MOS memory for serial signal processing applications. D.S. McGrath and D.J. Myers p1170

SEMICONDUCTOR SWITCHES

On-chip switching for DC parametric testing. A.J. Walton, J.M. Robertson, R. Holwill and B. Moore p422

SEMICONDUCTORS

Disordering by Zn-diffusion of InGaAs/InAlAs MQW superlattice structure grown by MBE. Y. Kawamura, H. Asahi, A. Kohzen and K. Wakita p218

SEQUENTIAL CIRCUITS AND MACHINES

Absolute-type pseudorandom shaft encoder with any desired resolution. E. Petriu p215
Two new types of hazard in asynchronous circuits. R. Andrew p1001

SHIFT REGISTERS

Group parity prediction scheme for concurrent testing of linear feedback shift registers. N.S. Vasanthavada p67
Variable-length shift register. K. Nagaraj and K. Singhal p452

SIGNAL GENERATORS

35 GHz microwave signal generation with an injection-locked laser diode. L. Goldberg, A.M. Yurek, H.F. Taylor and J.F. Weller p814
Stabilised PSK transmitter with negative electrical feedback to a semiconductor laser. G. Wenke and S. Saito p653

SIGNAL PROCESSING

ADPCM using vector predictor and forward adaptive quantiser with step-size prediction. K.H.J. Wong and R. Steele p74
Algorithm for multichannel LMS adaptive filtering. S.J. Elliott and P.A. Nelson p979
Application of maximum entropy spectral analysis to estimation of parameters of ARMA models by the ITIF method. R. Gómez Martín, M.C. Carrión Perez, S. Al Khouri Ibrahim and B. Garcia Olmedo p611
CORDIC-based HIFI digital FM demodulator algorithm for compact VLSI implementation. J. van Ginderdeuren, L. van Paepegem, J. Lecocq, R. Govaerts, F. Catthoor, P. Vandebroek, S. Slock, T.A.C.M. Claasen and H. de Man p1227
Computationally efficient algorithm for implementing multipulse LPC analysis. B.J. Guillemin and D.T. Nguyen p366
Determination of *P*-adic transform bases and lengths. Soo-Chang Pei and Ja-Ling Wu p431 d906
Diversity improvement for *M*-ary noncoherent frequency shift keying in impulsive reverberation noise. A.M. Maras, H.D. Davidson and A.G.J. Holt p944
Easy calculation of power spectra for multi-*h* phase-coded signals. M. Luise p608 e661
Envelope statistics of narrowband Cauchy noise. J.H. Roberts p1215
Fast Hartley transform algorithm. H.-J. Meckelburg and D. Lipka p341

Fractal dimension of $1/f^{\alpha}$ noises. J.L. Vaterkowski, C. Roques-Carmes and J.J. Gagnepain p688
Frequency-dependent SNR for time-base distortions in magnetic recording. U. Totzek p971
Method for the generation of M-ary constant-envelope PSK signals. C. Mantakas, K. Dagakis and V. Zacharopoulos p676
Monotonic descent algorithm to choose pulse locations in the excitation sequence of a multipulse speech coder. T.F. Thorpe and N.G. Kingsbury p972
New orthogonal transform for digital signal processing. Kou Weidong p666
Novel MOS memory for serial signal processing applications. D.S. McGrath and D.J. Myers p1170
Novel polar frequency discriminator. D.M. Rachman and B.J. Downing p1108
Phase accuracy and stability of quadrature IF demodulators. H.D. Griffiths, N.R.W. Long and J.G. Schoenenberger p186
Real-time demodulation of signals using statistical methods. J.A.S. Pritchard p1183
Rectangular-transform-based adaptive filter. G. Panda and P.M. Grant p301
Resolution and sampling rate needed for quantisation of a narrowband signal in wideband noise. A.P. Dekker p978
Simple formulas for the characteristics of limiter phase detectors. J. Kováts p997
Subjective evaluation of white noise effect on picture quality of improved television. Y. Yamamoto and Y. Ogata p651
Synthesis of bandlimited signals with independent amplitude and phase modulation. L.B. Lopes p1
Three-dimensional systolic architecture for beamforming. W. Marwood and A.P. Clarke p212
Unresolved carrier phase ambiguity and trellis decoding of CPFSK signals. N. Ekanayake p1165

SILICON

Optically activated vibrations in a micromachined silica structure. S. Venkatesh and B. Culshaw p315
Physical significance of scaling factor used in transport expressions of polycrystalline silicon. S.N. Singh, P.K. Singh and R. Kishore p21
Silicon optical printed circuit board for three-dimensional integrated optics. Y. Kokubun, T. Baba and K. Iga p508
Single-crystal silicon: a new material for 1·3 and 1·6 μm integrated-optical components. R.A. Soref and J.P. Lorenzo p953

SIMULATION

Equivalent circuit of microstrip spiral inductor circuit generation by computer. A.J. Baden Fuller and A.M. Parker p279
Novel approach to multiplexer simulation and sensitivity analysis. J.W. Bandler, S. Daijavad and Q.J. Zhang p408

SOLAR CELLS

Open-circuit voltage of induced/surface-doped junction solar cells. C.S. Hoi and Y.W. Lam p1157
Semiempirical expressions for solar cell fill factors. T. Easwarakhanthan, L. Bouhouch, J. Bottin and P.H. Nguyen p529
Tunnel diode theory. P.T. Landsberg and M.S. Abrahams p59
Two-junction cascade solar cell incorporating a high-conductance, MOCVD-grown interconnecting junction. C.R. Lewis and R.T. Green p1111

SPECTRAL ANALYSIS

Application of maximum entropy spectral analysis to estimation of parameters of ARMA models by the ITIF method. R. Gómez Martín, M.C. Carrión Perez, S. Al Khouri Ibrahim and B. García Olmedo p611

SPECTROMETRY

Single-mode fibre Fourier transform spectrometer. A.D. Kersey, A. Dandridge, A.B. Tveten and T.G. Giallorenzi p463

SPEECH PROCESSING

Computationally efficient algorithm for implementing multipulse LPC analysis. B.J. Guillemin and D.T. Nguyen p366
Conditional entropy encoding of log-PCM speech. H. Gharavi and R. Steele p475
Monotonic descent algorithm to choose pulse locations in the excitation sequence of a multipulse speech coder. T.F. Thorpe and N.G. Kingsbury p972
Simultaneous transmission of speech and data using an adaptive cancelling technique. R. Nash and W.C. Wong p784
Switched predictor adaptation of DPCM-AQB speech coder using an imbedded vector quantisation. V. Ramamoorthy p442

STATISTICS

Maximum income approach to yield optimisation. L.J. Opalski and M.A. Styblinski p734

STRIPLINES AND STRIPLINE COMPONENTS

Analysis of asymmetrical coplanar waveguide and coplanar strip lines with anisotropic substrate. T. Kitazawa and Y. Hayashi p986
Theoretical investigation of a stripline planar antenna. Chen Jin-Guang and Shi Wen-Hong p674 e775

SUPERCONDUCTING DEVICES

Noise comparison of biased and unbiased even-harmonic Josephson mixers. A. Yamaguchi, S. Kita and K. Fujisawa p397
Three-terminal operation of InAs-coupled Josephson devices by quasiparticle injection. K. Inoue and T. Kawakami p918
Wide-margin Josephson-junction A/D convertor using redundant coding. S.V. Rylov and V.K. Semenov p829

SURFACE ACOUSTIC WAVES

Determination of drift mobility and carrier concentration in semiconductors using surface acoustic wave amplifier structure. H. Baudrand, T.E. Taha and M. Benslama p32
Direct frequency modulation of a semiconductor laser by surface acoustic waves. P.A. Greenhalgh and P.A. Davies p598
Polarisation effects in SAW acousto-optic interactions. S.W. Li and E. Bourkoff p968
Shear transverse waves on corrugated surface of rotated Y-cut quartz. Y.V. Gulyaev, V.P. Plessky and Y.A. Ten p317

SURFACE PHENOMENA

Surface electrical breakdown and leakage current on semi-insulating InP. T. Kitagawa, H. Hasegawa and H. Ohno p299

SURFACE-ACOUSTIC-WAVE DEVICES

New cut of quartz for SAW devices with extremely small temperature coefficient. Y. Shimizu and M. Tanaka p225
New fabrication technique for single-phase unidirectional SAW filter (EMUDT) in UHF range. K. Yamanouchi, Z.H. Chen and T. Meguro p795
Positive/negative reflection-type SAW reflectors on ST-quartz using new fabrication technique. K. Yamanouchi, M. Takeuchi, T. Meguro and Y. Wagatsuma p966
Practical frequency source for use in agile radars. M.F. Lewis p1017
Surface-acoustic-wave frequency-domain limiter. M.F. Lewis p573
Untuned low insertion loss surface leaky wave filter. D. Zhang, Y.A. Shui and W.Q. Wu p559

SWITCHED CAPACITOR FILTERS

Computer-aided design of stray-insensitive second-order switched-capacitor filters. P.V. Ananda Mohan p635
Correlation and aliasing in the noise-cancelling switched-capacitor (SC) filtering technique. A.G. Hall p932
Economical design of SC coupled-biquad filters. S. Fotopoulos p472
Exact design of highpass switched-capacitor filters of the LDI type. J.T. Taylor and J. Mavor d643
First-order SC filter section with interpolating output. S. Eriksson p221
Lowpass to highpass transformation in VIS switched-capacitor filters. F. Montecchi p146
New switched-capacitor ladder filters. H.G. Dimopoulos p152
Offset and clock-feedthrough compensated switched-capacitor integrators. J. Robert, G.C. Temes, F. Krummenacher, V. Valencic and P. Deval p941
Offset-compensated bilinear SC filter of leapfrog type using a two-phase clock. S. Eriksson p1043
Reduction of finite-gain effect in switched-capacitor filters. K. Nagaraj, K. Singhal, T.R. Viswanathan and J. Vlach p644
SC filter circuit with decimation of sampling frequency. S. Eriksson p484
Second-order switched-capacitor bandpass filter implemented in GaAs. S.J. Harrold, I.A.W. Vance and D.G. Haigh p494
Stray-free switched-capacitor building block that realises delay, constant multiplier, or summer circuit. A.E. Said p167 e550
Switched-capacitor ladder filters with zero worst-case sensitivity at reflection zeros. T. Inoue and F. Ueno p1000
Synthesis of highpass switched-capacitor LDI filters. H. Baher p79
Use of bilinear terminations for LDI-type SC ladder filters. P.V. Ananda Mohan p588

SWITCHED CAPACITOR NETWORKS

Floating integrator technique for switched-capacitor circuits employing reset cycles. W.C. Black p1126
Method of simplified analysis of switched-capacitor networks. J.J. Mulawka and G.S. Moschytz p138
Novel switched-capacitor generalised integrator. A. Cichocki and R. Unbehauen p158
Switched-capacitor integrators with low finite-gain sensitivity. K. Haug, F. Maloberti and G.C. Temes p1156
Switched-capacitor lossless discrete differentiator with modified sample-and-hold sequence. Y. Horio and S. Mori p1036

SWITCHING AND SWITCHING CIRCUITS

20 GHz band high-power onboard beam-switching circuit for multibeam satellite systems. K. Araki and T. Tanaka p474
Cost-effective digital switching network. A. Jajszczyk p909
Dielectric switching with memory in thin films of stearic acid. W. Fulop and R. Ginige p439
High-speed 16 × 16 CMOS crosspoint switch. G.A. Hayward, A.M. Gottlieb, D.G. Boyer and J.E. Berthold p923
Rearrangeable one-sided switching networks composed of uniform time-space elements. A. Jajszczyk and W. Kabacinski p285
Switching circuits for yield enhancement of an array chip. W.R. Moore e124
Temperature-dependent characteristics of MBE-grown GaAs p^+-v-p^+-v-n^+ regenerative switching device. C.Y. Chang, Y.H. Wang, W.C. Liu and S.A. Liao p24

SYNCHRONISATION

New synchronisation method for satellite-switched time-division multiple-access systems. L.-K. Shark, T.J. Terrell and R.J. Simpson p547

SYSTEM THEORY

System reduction by continued-fraction expansion about $s = j\omega_c$. Y. Katsube, K. Horiguchi and N. Hamada p678

TELECOMMUNICATION

2400 bit/s DMSK modem for mobile satellite service. F. Davarian and J. Sumida p965
Analysis of 'Open systems interconnection transport protocol standard'. M.Y. Bearman, M.C. Wilbur-Ham and J. Billington p659
Automatic timing alignment for regenerative repeaters. S. Whitt p1122
Binary error probabilities on earth-space links subject to scintillation fading. O.P. Banjo and E. Vilar p296
Capacity of wideband TDMA digital mobile radio cellular schemes. P.A. Matthews p1189
Clock sensitivity reduction in echo cancellers. S.A. Cox p585
Compact noise-reduction system for quasistatic TV pictures. M.J.M. Pelgrom, J. Herrmann, H.P. van Gijn and F.W.P. Vreeswijk p766
Digital communication receiver with integrated MAP synchronisation and ML demodulation. E. Del Re and R. Fantacci p862

Diurnal and seasonal variations of OTS amplitude scintillations. G. Ortgies and F. Rücker p143
Dynamic channel allocation schemes for cordless telephones. F.A. Al-Salihi p420
Economic comparison between TDM and SDM in small telephone systems. P.J. Banks and S.B. Wilson p1177
Effect of correlated noise on error probability of binary frequency shift keying with limiter-discriminator-detector and narrowband filters. I. Korn p481
Effect of video amplifier rise time and CRT gamma on performance of a high-resolution monitor. M. Miessler p777
Experimental parameters affecting amplitude scintillation measurements on satellite links. G. Ortgies p771
Field test measurement for 920 MHz transmitter diversity. S. Ogose p159
Incoherent FSK. L.C. Walters p876
Measurement and prediction of digital radio performance on a long overwater path. J. Steel, J.C. Campbell and L. Davey p1212
Meteor burst polarisation trials. H. Nes p1132
Method of calculating minimum distance for suboptimum receivers. W. Holubowicz p892
Monolithic integrated 4:1 multiplexer and demultiplexer operating up to 4·8 Gbit/s. N. Yoshikai, S. Kawanishi, M. Suzuki and S. Konaka p149
New synchronisation method for satellite-switched time-division multiple-access systems. L.-K. Shark, T.J. Terrell and R.J. Simpson p547
Probability density function of amplitude scintillations. G. Ortgies p141 d621 e632
Spatial resolution of coherent ALOHA collision sources. J.Y.C. Cheah and F.J. Paoloni p334
Transmission experiments at 560 Mbit/s and 140 Mbit/s using single-mode fibre and 1300 nm LEDs. J.L. Gimlett, M. Stern, R.S. Vodhanel, N.K. Cheung, G.K. Chang, H.P. Leblanc, P.W. Shumate and A. Suzuki p1198

TELEPHONY

Dynamic channel allocation schemes for cordless telephones. F.A. Al-Salihi p420
Economic comparison between TDM and SDM in small telephone systems. P.J. Banks and S.B. Wilson p1177

TELEVISION

Compact noise-reduction system for quasistatic TV pictures. M.J.M. Pelgrom, J. Herrmann, H.P. van Gijn and F.W.P. Vreeswijk p766
Subjective evaluation of white noise effect on picture quality of improved television. Y. Yamamoto and Y. Ogata p651

THIN-FILM DEVICES

Dielectric switching with memory in thin films of stearic acid. W. Fulop and R. Ginige p439
Observation of second-harmonic generation from a Langmuir–Blodgett monolayer of a merocyanine dye. I.R. Girling, N.A. Cade, P.V. Kolinsky and C.M. Montgomery p169 e359

THYRISTORS

Monitoring the final on-zone dynamics in TIL GTO thyristors. A.P. Silard p691

TIME-DOMAIN REFLECTOMETRY

Distributed temperature sensing in solid-core fibres. A.H. Hartog, A.P. Leach and M.P. Gold p1061
Time division multiplexed OTDR system. T. Kimura, H. Shimizu, H. Miyagi and K. Noda p1070

TIMING CIRCUITS

Automatic timing alignment for regenerative repeaters. S. Whitt p1122
Flexible regenerator for digital transmission systems. L. Bickers p7

TRANSDUCERS

Au-Ga alloy film acoustic bonding. J.T. Veligdan p810
New fabrication technique for single-phase unidirectional SAW filter (EMUDT) in UHF range. K. Yamanouchi, Z.H. Chen and T. Meguro p795

TRANSFER FUNCTIONS

Algorithm for biased continued-fraction expansions of z-transfer functions. Chee-Fai Yung and Chyi Hwang p710
On common factors appearing in inversion of matrix transfer functions. M.B. Argoun p910

TRANSFORMS

Determination of P-adic transform bases and lengths. Soo-Chang Pei and Ja-Ling Wu p431 d906
New orthogonal transform for digital signal processing. Kou Weidong p666

TRANSISTORS

11 ps ring oscillators with submicrometre selectively doped heterostructure transistors. N.J. Shah, S.S. Pei, C.W. Tu, R.H. Hendel and R.C. Tiberio p151
Effects of channel shapes on MOSFET hot-electron resistance. T.-Y. Huang p211
Fabrication of widegap-emitter Schottky-collector transistor using GaInAs/InP. N. Emeis and H. Beneking p85
Four quadrant multiplier core with lateral bipolar transistor in CMOS technology. Z. Hong and H. Melchoir p72
HEMT 60 GHz amplifier. J. Berenz, K. Nakano, Ting-Ih Hsu and J. Goel p1028
Low-noise HEMT fabricated by MOCVD. H. Takakuwa, Y. Kato, S. Watanabe and Y. Mori p125
MOCVD-grown AlGaAs/GaAs hot-electron transistor with a base width of 30 nm. I. Hase, H. Kawai, S. Imanaga, K. Kaneko and N. Watanabe p757
Modelling DC characteristics of HEMTs. M.T. Abuelma'atti p69
New insulated-gate inverted-structure AlGaAs/GaAs/n-AlGaAs HEMT ring oscillator. H. Kinoshita, T. Ishida, M. Akiyama, H. Inomata, Y. Sano, S. Nishi and K. Kaminishi p1062
Parameter extraction on MOSFET transistors using a new optimised fit strategy. W. Maes, K. De Meyer and L. Dupas p490
PnP-type InP/InGaAsP/InP bipolar transistor. L.M. Su, H. Schroeter-Janssen, K.C. Li and N. Grote p989
Required grading length to eliminate the heterojunction spike in *npn* $In_{0.52}Al_{0.48}As/In_{0.53}Ga_{0.47}As/InP$ bipolar transistors. N. Chand and H. Morkoç p841

TRANSMISSION LINES

Experimental determination of propagation parameters of a microstrip line with tuning septums. P. Pribetich, P. Kennis and C. Seguinot p745
Theoretical analysis of the coupling between whispering-gallery dielectric resonator modes and transmission lines. X.H. Jiao, P. Guillon and J. Obregon p88
Use of FFT in microstrip capacitance calculations. J.R. Weale p86

TUNNELLING

Tunnelling through very low barriers. P. Guéret, U. Kaufmann and E. Marclay p344

ULTRASONICS

Acoustic resonator transducer for operation in air. J.D. Fox, B.T. Khuri-Yakub and G.S. Kino p694
Anisotropy detection in hot-pressed silicon nitride by acoustic microscopy using the line-focus beam. K. Yamanaka, J. Kushibiki and N. Chubachi p165
New continuous dynamic focusing technique in ultrasound imaging. M.H. Lee and S.B. Park p749
New cut of quartz for SAW devices with extremely small temperature coefficient. Y. Shimizu and M. Tanaka p225
New fabrication technique for single-phase unidirectional SAW filter (EMUDT) in UHF range. K. Yamanouchi, Z.H. Chen and T. Meguro p795
Polarisation effects in SAW acousto-optic interactions. S.W. Li and E. Bourkoff p968
Positive/negative reflection-type SAW reflectors on ST-quartz using new fabrication technique. K. Yamanouchi, M. Takeuchi, T. Meguro and Y. Wagatsuma p966
Scanning acoustic microscopy using PVDF concave lenses. A. Labrèche, A. Beausejour, M. Castonguay and J.D.N. Cheeke p990
Shear transverse waves on corrugated surface of rotated Y-cut quartz. Y.V. Gulyaev, V.P. Plessky and Y.A. Ten p317
Surface-acoustic-wave frequency-domain limiter. M.F. Lewis p573
Untuned low insertion loss surface leaky wave filter. D. Zhang, Y.A. Shui and W.Q. Wu p559
Use of acoustic transducers as generalised electrical circuit elements. M.F. Lewis and C.L. West p1211

VAPOUR DEPOSITION

Complementary self-aligned laser by metalorganic chemical vapour deposition. L.J. Mawst, G. Costrini, C.A. Zmudzinski, M.E. Givens, M.A. Emanuel and J.J. Coleman p903
Effects of growth temperature and $[PH_3]/[In(C_2H_5)_3]$ on purity of epitaxial InP grown by metalorganic chemical vapour deposition. K. Uwai, O. Mikami and N. Susa p131
High-rate fabrication of wholly synthesised fibre preforms by the multiflame VAD method using $SiHCl_3$ raw materials. H. Suda, S. Shibata and M. Nakahara p1123
Inversion-mode InP MISFET using a photochemical phosphorus nitride gate insulator. Y. Hirota, T. Hisaki and O. Mikami p690
Low-noise HEMT fabricated by MOCVD. H. Takakuwa, Y. Kato, S. Watanabe and Y. Mori p125
Photochemical vapour deposition of phosphorus nitride using an ArF excimer laser. Y. Hirota and O. Mikami p77
Reduction of geometric taper losses in the PCVD process. P. Geittner, H.J. Hagemann, J. Warnier, F. Weling and H. Wilson p870

VARACTORS

Varactor diode for tuning high-power solid-state microwave oscillators. B.J. Downing p1152

VIDEO

Analogue video transmission over cabled monomode fibre using optical frequency modulation with heterodyne detection. D.J.T. Heatley, R.A. Lobbett, T.K. White, A.J. Farthing, K.I. Gilbert, W.A. Stallard and A.R. Beaumont p717
Effect of video amplifier rise time and CRT gamma on performance of a high-resolution monitor. M. Miessler p777
Use of superluminescent diodes in PFM optical video transmission. T.T. Tjhung, F.V.C. Mendis and B. Selvan p939

WAVE PROPAGATION

Calculation of approximate propagation characteristics for any given two-dimensional optical waveguide. L.M. Walpita p1074

WAVEGUIDE COMPONENTS

Design of a wideband compact square waveguide polariser. F. Arndt, W. Tucholke and T. Wriedt p517
Waveguide E-plane integrated-circuit diplexer. F. Arndt, J. Bornemann, D. Grauerholz, D. Fasold and N. Schroeder p615

WAVEGUIDE COUPLERS

Lewin's theory of waveguide coupling by rectangular slots, On. T.K. Wah and M.K. Haldar p232

WAVEGUIDES

Accurate resonant frequencies of cylindrical dielectric resonators using a simple analytical technique. R.K. Mongia and B. Bhat p479
All optical multiple-quantum-well waveguide switch. P. Li Kam Wa, J.E. Sitch, N.J. Mason, J.S. Roberts and P.N. Robson p26
Analysis of asymmetrical coplanar waveguide and coplanar strip lines with anisotropic substrate. T. Kitazawa and Y. Hayashi p986

Calculation of approximate propaga.ion characteristics for any given two-dimensional optical waveguide. L.M. Walpita p1074
Characteristic impedance of coplanar waveguide. D. Bhattacharya p557 e824
Coupled coplanar waveguide with anisotropic substrate. T. Kitazawa and Y. Hayashi p1197
Design and performance of π guide directional couplers with very flat couplings. J. Rodriguez and A. Prieto p292
Effect on return loss of dimensional tolerances of the aperture of rectangular waveguide. E.J. Griffin and T.E. Hodgetts p942
Guided-wave optical wavelength-division multi/demultiplexer using high-silica channel waveguides. M. Kawachi, Y. Yamada, M. Yasu and M. Kobayashi p314
Lewin's theory of waveguide coupling by rectangular slots, On. T.K. Wah and M.K. Haldar p232
Numerical solution of silicon-clad diffused planar optical waveguides. M. Koshiba, H. Kumagami and M. Suzuki p340
Optimisation of dimensions of single V-groove guide. Y.M. Choi and K.F. Tsang p477 e1058
Proton exchange in MgO-doped $LiNbO_3$. J.L. Jackel p509
Time-domain response of MIS coplanar waveguides for MMICs. C. Seguinot, M. El Kadiri, P. Kennis, P. Pribetich and J.P. Villotte p1185
Uniform bend loss of the TE_{0_q} mode in circular waveguides with small surface impedance and large surface admittance. M. Miyagi, K. Nii and S. Nishida p1009
Vectorial wave analysis of optical waveguides with rectangular cross-section using equivalent network approach. M. Koshiba and M. Suzuki p1026
Waveguide formation in bulk GaAs and InP materials. D.J. Jackson and D.L. Persechini p44

YTTRIUM COMPOUNDS

Antireflection coatings on lithium niobate waveguide devices using electron beam evaporated yttrium oxide. G. Eisenstein, S.K. Korotky, L.W. Stulz, J.J. Veselka, R.M. Jopson and K.L. Hall p363